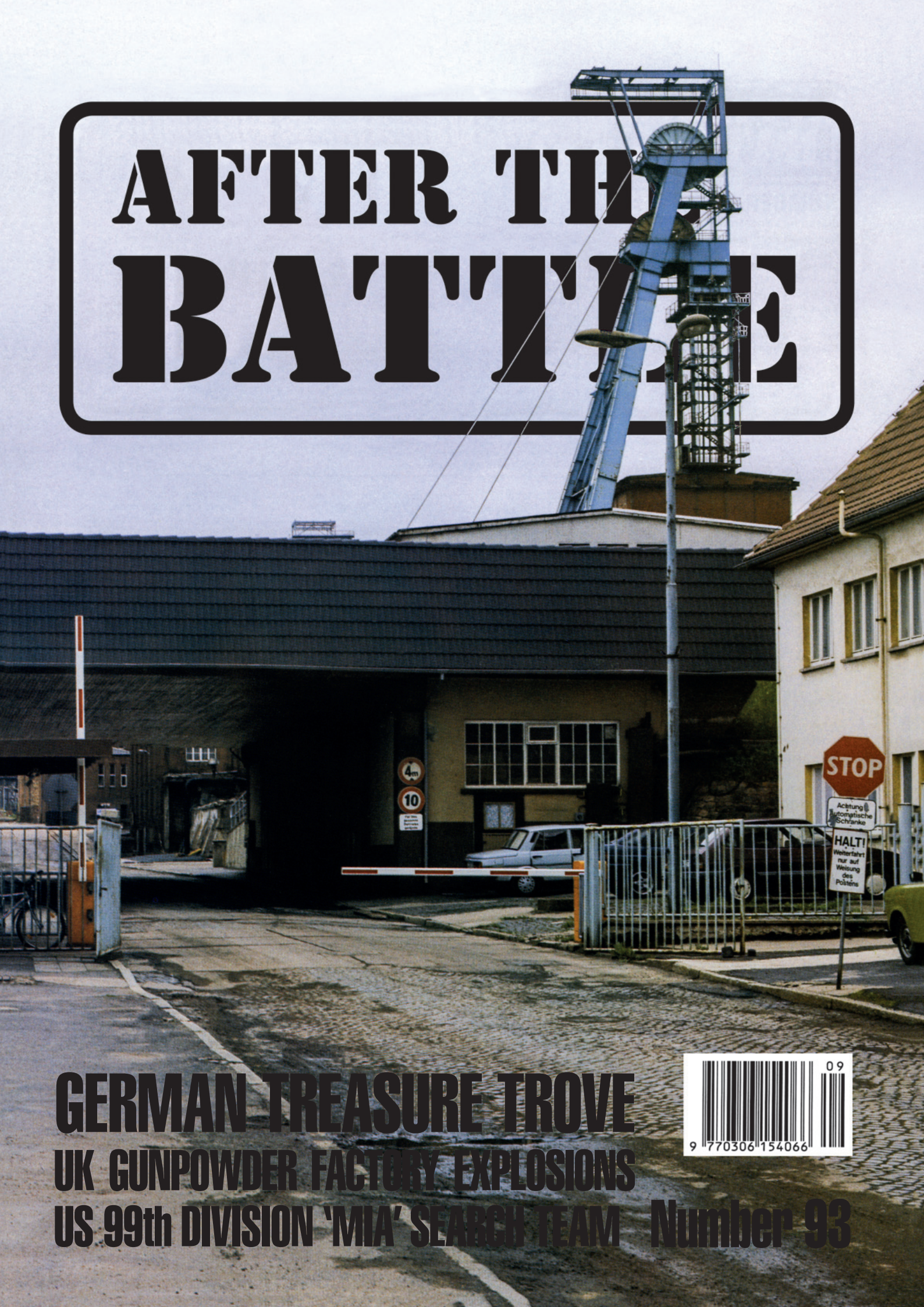
# AFTER THE BATTLE




## GERMAN TREASURE TROVE

## UK GUNPOWDER FACTORY EXPLOSIONS

## US 99th DIVISION 'MIA' SEARCH TEAM

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Number 93

# AFTER THE BATTLE

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**Front Cover:** The entrance to the Kaiseroda mine at Merkers. Here, in April 1945, Shaft No. 3 below the winding gear led to a veritable treasure cave of German state valuables secreted away almost 1,600 feet below ground, but today the mine has ceased production and most of the above-ground buildings are in the process of demolition. (Karel Margry)

**Centre Pages:** Fatal crash site on a Victorian hillside yet, thanks to the efforts of David Green, the deaths of four Australian airmen will no longer be forgotten. (David Green)

**Back Cover:** The last farewell at Fort Sam Houston, San Antonio, Texas, for 2nd Lieutenant L. O. Holloway whose remains were found in Belgium in 1990 by the 99th Division 'Missing in Action' Search Team.


**Acknowledgements:** The Editor is indebted to Ian Sayer for the loan of photographs from his extensive archive for the feature on German gold. Karel Margry is appreciative of the assistance of Herr Hartmut Ruck of the Merkers/Kaiseroda mine, Frau Regina Rakisch and Herr Friedbert Staar of the Buchenwald Memorial, and Peter Hendrikx.


**Photo Credits:** AWM – Australian War Memorial, Canberra. BWA – Buchenwaldarchiv. RIOD – Rijksinstituut voor Oologsdocumentatie, Amsterdam. USNA – US National Archives, Washington DC.

miles of Bremen. First and Ninth U.S. Armies expanded their Weser bridgeheads and squeezed Ruhr pocket. Third U.S. Army consolidated

# Nazi Treasure Astonishes Yanks Probing Salt Mine

By Robert Richards
United Press War Correspondent

MERKERS, Germany, Apr. 8—Men of the 90th U.S. Inf., Div. probing the depths of a salt mine here, yesterday discovered what is believed to be the entire gold reserve of the Reichsbank, together with priceless art treasures freshly removed from Berlin.

Dr. Fritz Vieck, one of the Reichsbank's advisers, who was captured in the mine, estimated at 100 tons the gold bullion stored in a vault 2,100 feet below the ground. Vieck also estimated the paper currency in the vault at 3,000,000,000 dollars' worth of German marks, 2,000,000 American dollars, 100,000,000 French francs, 110,000 English pounds, 4,000,000 Norwegian crowns and smaller amounts of other foreign currencies.

Two other officials in charge of the gold and treasure vaults were also captured. They are Dr. Po Rave, curator of the

(Continued on Page 8)

## in Clouds, Mist

arles Lynch
ecial Correspondent

TY IN HOLLAND, Apr. 8—Allied airborne ide area in northern Holland east of the n troops now striking north for a link-up. laced with canals. Aircraft flew through down in a mist which cut the visibility raft were roaring over their heads the where the drop was being made.

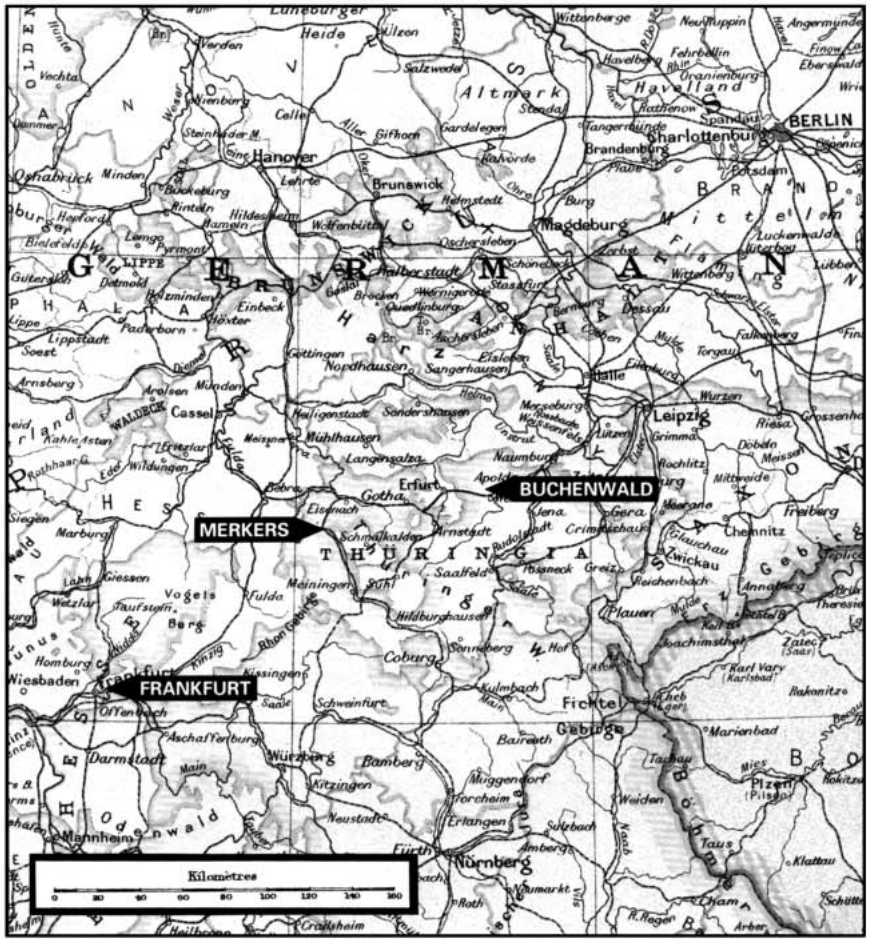
o disclose the size of the airborne force. as was the huge force which dropped All drops were made by parachute—no

## Build Rail Bridge Over Rhine

21st Army Gp. Hq., Apr. 8—A railway

More than 51 years after units of the US Third Army found more than $250,000,000 of assets hidden by the Nazis in the German State of Thuringia, allegations of theft and controversies about the disposition of the treasures continue to spark notoriety. Over the course of time since German state assets and Nazi plunder were recovered from the Kaiseroda mine in Merkers in 1945, concerns about whether some members of the American military pilfered some part of this treasure have still not been laid to rest.

Another Nazi treasure trove, the Buchenwald quarry discovery which became 'Shipment 16', was fully documented at the time, not only by affidavits sworn by the two US First Army Judge Advocate General officers responsible for the find, but also by a documentary record consisting of film and photographs, excavation and movement orders, and receipts and custody paperwork from the American Frankfurt am Main depository where Shipment 16 was sent less than a week after it was found.



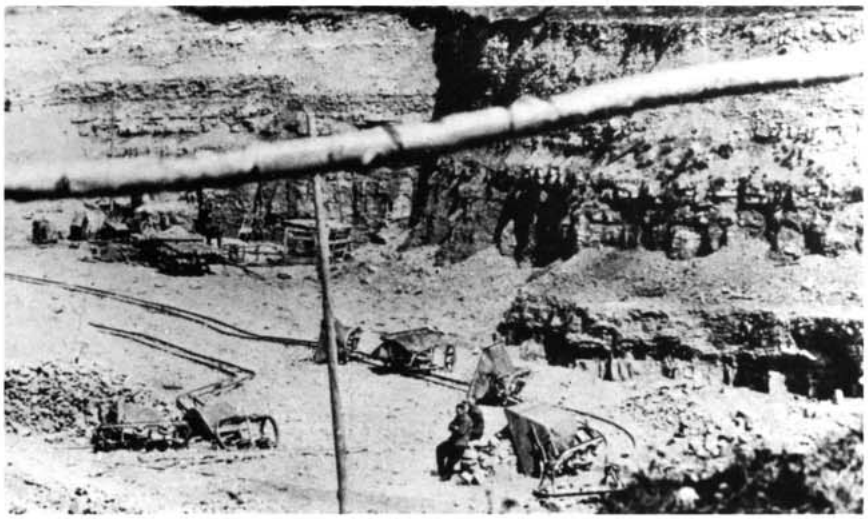
# THE MERKERS AND BUCHENWALD TREASURE TROVES

## By Carolsue Holland and Thomas Rothbart

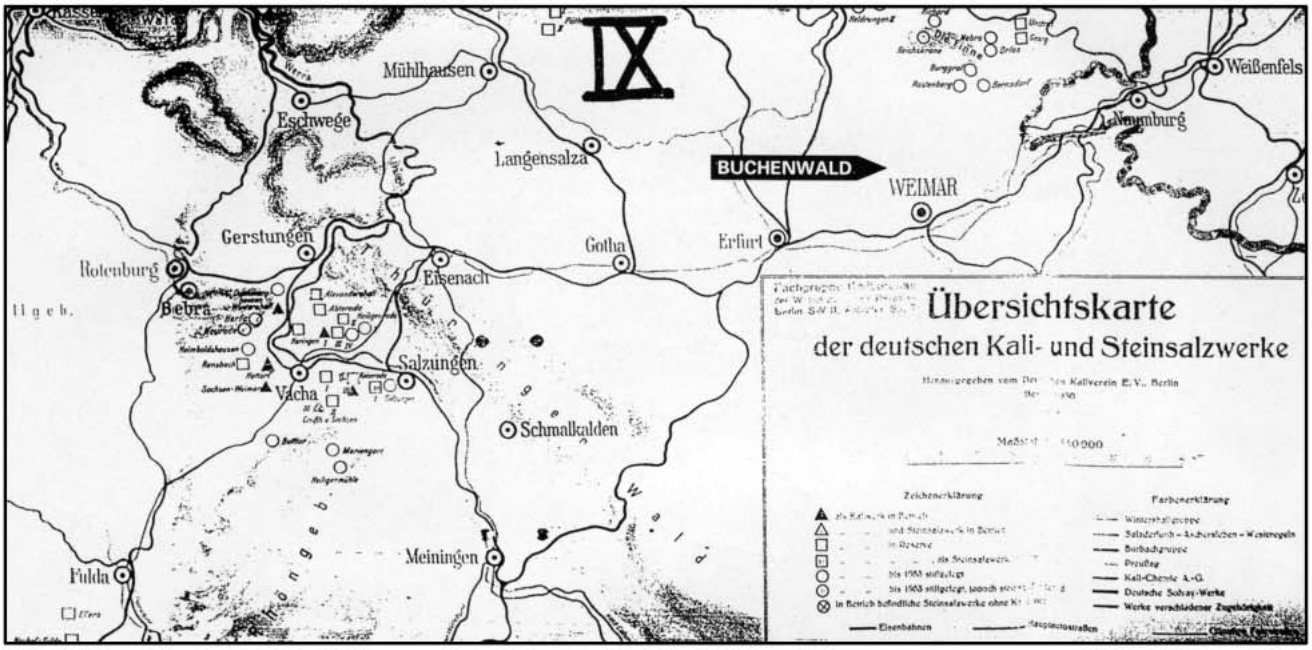
Ironically, unlike the major find at Merkers (a portion of which became Shipment 1), information about Shipment 16 was not concealed by an extraordinary security classification. Therefore, when the American National Archives and Record Agency (NARA) opened the documents under the 30-year rule, information about the find hidden in the Buchenwald quarry was available to anyone with the qualifications to do archival research. Since the beginning of 1979 (31 years after the Buchenwald trials), the declassification of pertinent documents occurred according to ordinary procedure: a researcher who wished to use material deposited in the file boxes of a particular record group, brought it to the readers' room desk where an archival technician crossed out the security classification and stamped on a declassification number and date.

The practice of crossing-out, not deleting, the security classification has much to do with a myth that the Americans were hiding information about Shipment 16 in a 'secret archive'. On March 30, 1984, a researcher working in NARA located parts of an incomplete record about the American military and a treasure trove found in Buchenwald concentration camp's quarry. From 1984 until the unification of Germany in 1990, it appears that attributing the former US security classification to a conspiracy to withhold information generated a concerted effort on the part of local German treasure hunters. After October 1990, the quest devolved to a small group of Thuringians who, periodically, still pester State authorities and the directorate of the Buchenwald Memorial to underwrite a hunt to look for the buried assets of Shipment 16 by excavating Buchenwald quarry.

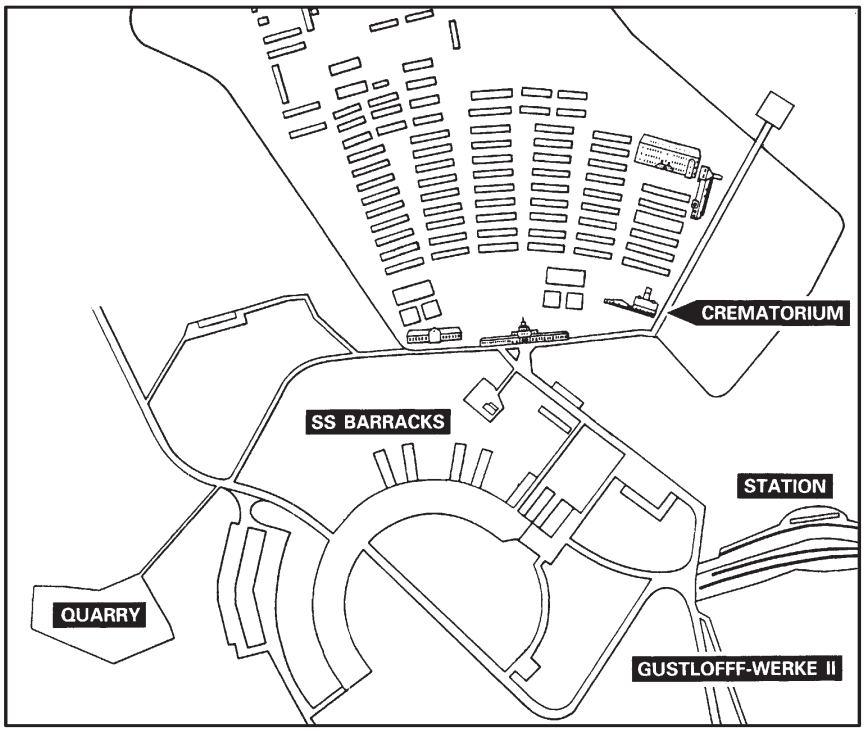
Also, one United States corporation seeking to attract investors for support, continues to pressure the Buchenwald Directorate and the Thuringian State government to dig up the Buchenwald quarry to find assets that the entire documentary record proves were removed by US First Army before the end of World War II, more than 51 years ago.



**As the Allied armies closed in on Germany in 1945, the Germans went to extensive lengths to secrete their movable state assets — bullion, cash, art and sculpture, etc — as well as hiding valuables looted from the occupied territories.** *Top:* **Salt mines, with their stable temperature and humidity were ideal: here a soldier of the US Third Army examines art treasures discovered in the Kaiseroda mine at Merkers, more than 250 kilometres north-east of Frankfurt, in April 1945. (USNA)** *Above:* **Another cache in the quarry at Buchenwald concentration camp, almost 100 kilometres to the east, was found three weeks later. (BWA)**




**To secrete their treasures, the Germans had a wide choice of hiding places. This map showing the various mines in the vicinity of Meiningen and Vacha in Thuringia, was used to plan and organise the transportation of the Reichsbank reserves and museum treasures which were secreted in February and March 1945. The original 1:350 000 Wehrkreis IX map was found by our authors, Carolsue Holland and Thomas Rothbart in Record Group 242 in the US National Archives.**



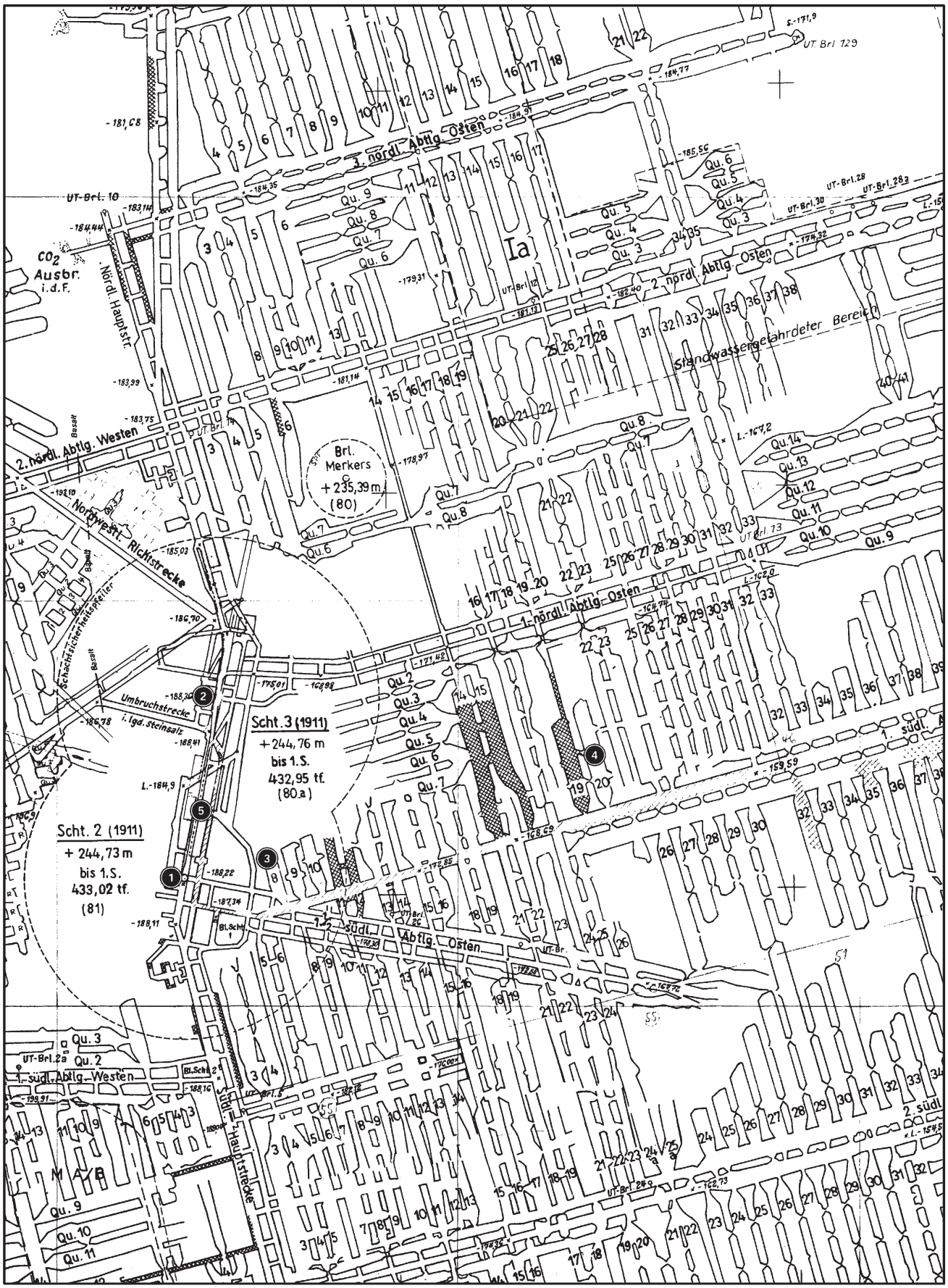

**Buchenwald, just north-west of Weimar, was not marked on the Wehrkreis map but we have indicated its position. The quarry lay south-west of the camp itself and outside the main compound. Tunnels — so called 'air raid shelters' — were driven into the north-eastern wall of the quarry with brick entrances to seal the shafts. The work was carried out using forced labour from the camp, many inmates dying from the long hours of arduous work on inadequate rations. (BWA)**

Even as late as February 1994, the US Army Center for Military History stated that they could find no reference in their records to any treasure being removed from Buchenwald and shipped to the United States by the US Army. If information remains deniable, there is nothing for which anyone, living or dead, can be held accountable. Consequently, the 'Catch 22' of any bureaucracy, military or otherwise, is operant here: if there had been a cover-up, what had been covered-up as well as the cover-up itself, would remain unknown to someone interested enough to make inquiries.

This modification of the public record might have gone unchecked except for the fact that by 1992, the treasure hunters were more cautious because even limited access to the former East German Stasi Archives demanded a more thorough-going evaluation of archival findings. We connected the story of Shipment 16 with Shipment 1 when we found corroborating evidence in other NARA record groups after we sought to authenticate some documents in the hands of one of the Thuringian treasure hunters. He claimed that what he had, had come from 'a secret American archive'. In his possession were 16 randomly selected pages from a single NARA record group arranged in such a way as to make it appear that these constituted an on-going sequence. He also tried to make it appear that the declassification date on these materials was 1989, not 1984.

Curiosity about these documents led us to others in the NARA record groups dealing with SHAEF (Supreme Headquarters Allied Expeditionary Forces) G-5 (Finance) affairs. These indicated that the designations of the respective 78 'shipment' numbers and separation of Nazi assets and plunder from SS loot had been made by the chief of SHAEF G-5 (Finance), Colonel Bernard D. Bernstein, almost one month before VE-Day. They also clarified why only a small percentage of the treasures found in the Kaiseroda mine constituted Shipment 1. What was believed to be SS loot had been assigned a shipment number; other assets and plunder had other designations. Going back over the published material on the Merkers find, as well as through the archives at NARA and at the Center for Military History, we discovered that no one, including the American official military historians, had recognised that Colonel Bernstein originally and deliberately had separated Nazi state assets and plunder from SS loot by a system of numbering each shipment according to the order in which it was received at the American Frankfurt depository. Only SS loot, not the state assets nor the plundered gold, found in Merkers was designated as Shipment 1. The entire cache secreted in the Kaiseroda mine was the first of many other 'Nazi treasures' to be delivered to the custody of the newly-organised American Exchange Depository, a hastily converted, but nevertheless secure, building that had formerly housed the Frankfurt office of the German Reichsbank.

What led to the creation of Shipment 1 and Shipment 16, as well as what happened during and after the SS loot comprising it was in American custody, begins with the unexpected discovery on April 4, 1945, by the 90th Division's 358th Infantry Regiment of the treasure cache at the Kaiseroda mine in Merkers.



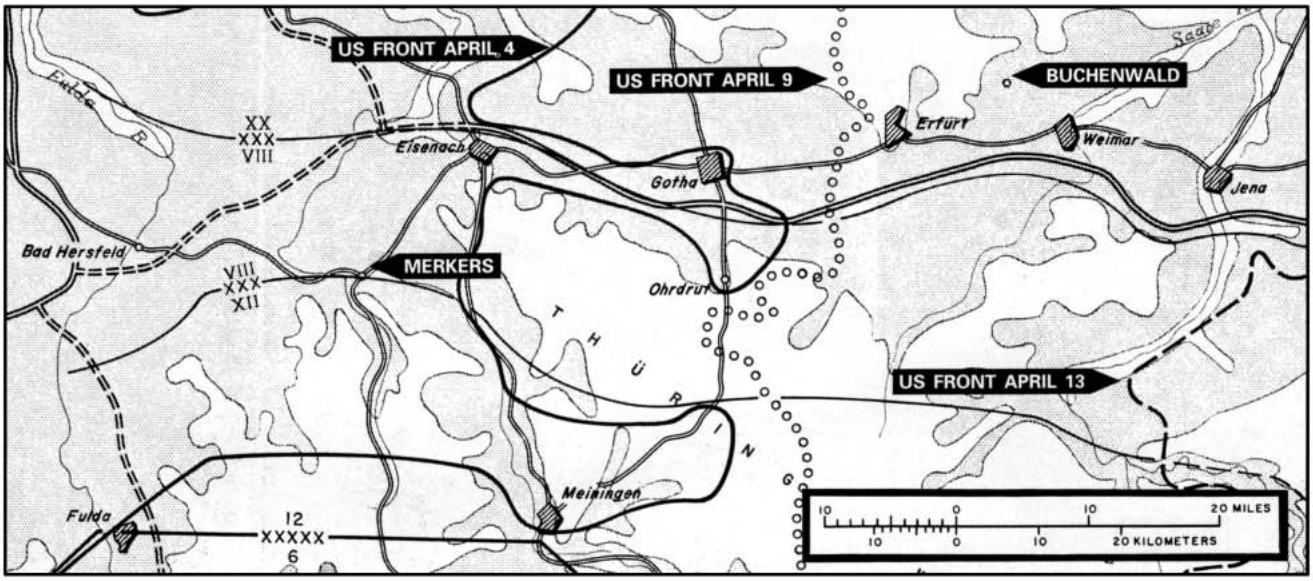

**However, but for German prisoners revealing the whereabouts of the secreted treasure, searching all the mines would have been like looking for the proverbial needle. This plan shows *just a small part* of the mine complex at Merkers, begun in the 1870s but which extended to some 500 kilometres of tunnels and chambers by 1945. More correctly, it was referred to as the Kaiseroda II/III mine, the Second World War storage area being situated in the '1. südliche Abteilung Osten' (1st Southern Section East). Relevant to our story are: [1] Shaft No. 2. [2] Shaft No. 3. [3] Room No. 8 (gold storage). [4] Room No. 20 (paintings, objets d'art). [5] Location where photo of GIs holding Manet painting (on page 14) was taken. (Courtesy Merkers mine)**

## FROM MERKERS: SHIPMENT 1

During the morning of Wednesday, April 4, Lieutenant General George Patton's US Third Army forces were advancing through the village of Merkers proceeding south-east toward the Thuringian town of Meiningen.

Just beyond Merkers town centre, behind the fencing abutting the road, Berlin Reichsbank officials Albert Thoms, Dr Otto Reimer and Dr Werner Veick, with the help of some of the staff, were frantically racing up and down a shaft at the Kaiseroda mine to secrete sacks full of German currency in a specially constructed vault located almost 1,600 feet underground before the Americans could discover what was going on. Together with cases and crates of bullion, the Third Reich's gold reserves, and other monetary and artistic treasures, these banknotes had been sent from Berlin in two shipments (the first leaving on February 11) to be hidden in vaults inside the Kaiseroda mine.

**Advancing through Merkers — June 1996. Here 51 years previously, spearheads of Patton's Third Army thundered eastwards in their drive to the Elbe.**




According to Thoms who, later, was interrogated by Colonel Bernstein on April 19, the February shipment, comprising 22 rail wagons, took German personnel and foreign labourers four days to unload and secrete in a section of the mine that had been prepared by Wintershall A.G., owners of the Kaiseroda mine, for the storage of the Reichsbank's holdings. The second and smaller shipment, arriving in the middle of March, required less than 48 hours to unload.

Interrupted by an Easter weekend railway shutdown from Friday, March 30 to Tuesday, April 3, Thoms and his people had been trying to send currency back to Berlin in order to replenish the supply in circulation after Allied bombing had stopped the printing of new banknotes.

Now, shortly before noon on April 4, the Germans carrying money bags back into the shaft housing continued to work, as streams of American soldiers passed by on the road fronting the mine entrance. During that Wednesday, several foreign workers in conversation with soldiers from the 3rd Battalion of the 358th Infantry Regiment mentioned the Reichsbank treasure hidden in the Merkers mine. Yet it was not until 11 a.m. the next day that Staff Sergeant Wall, Military Intelligence Team 404-G attached to the 358th Infantry, interviewed some French displaced persons who had worked in the mine. They stated that they had heard that gold

**Just the other side of town lay the entrance to the Kaiseroda mine with the tell-tale winding gear of Shaft No. 3 towering above. US troops passed from right to left along the road in the foreground, unaware at this stage that a King's ransom lay buried deep beneath their feet.**

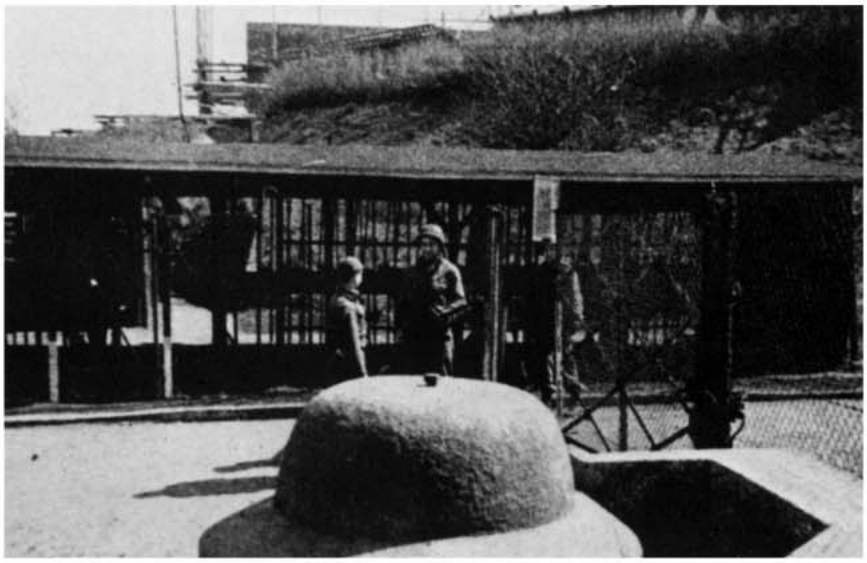
**Thuringia was one of the eight German Länder (or states) which had been assigned to the Soviet Union as part of their zone of occupation already agreed by the Allies in September 1944. Thus, American forces were already advancing across country which would have to be surrendered to the Soviets. For the next 45 years, Merkers was to remain inaccessible behind the Iron Curtain — the largest salt mine in Germany, if not the world — employing a workforce of 5,000. It was first opened to visitors on August 6, 1991 following unification but, at the same time, the mine workings were shut down. Now, some 250 miners are retained to safely close the tunnels and backfill — a job which will take at least ten years.**

had been stored there. Sergeant Wall reported this information to Captain Dengler, the S-2 (intelligence officer) of the 358th. The commander of the 90th Division, Major General Herbert L. Earnest, without examining the mine, notified General Patton's headquarters that his command had been told by a worker who had been in the mine and reported from personal knowledge that 'Merkers mine . . . contains marks, gold, silver, paintings, jewels. There are approximately 500 kilometers of passages underground.'

On Friday, April 6, PFC Harmon and PFC Kline of the XII Corps Provost Marshal's Office challenged and stopped two women walking along the road between Kieselbach and Merkers for curfew violation. One of the women was pregnant. She stated that she was being accompanied by the other to find medical help. Taking the women as passengers in their Jeep, Harmon and Kline drove them to the XII Corps Provost Marshal's Office where they were questioned. Later in the morning they were driven back to the village of Merkers by Private Mootz. Entering Merkers, Mootz saw the Kaiseroda mineshaft winding gear and asked the women what sort of mine it was. They explained that it was where the German gold reserve and valuable property of the national art museums in Berlin had been deposited. They knew this, they said, because they were personally acquainted with some of the civilian German workers from the Merkers mine who had worked for four days in February unloading a 22-car treasure train carrying gold, sacks of currency from the Reichsbank and numerous, precious statuary and paintings from art museums in Berlin.

Private Mootz promptly reported the story to Sergeant Matthews, Headquarters Company, 90th Division, who passed the information on to Colonel Whitcomb, Chief-of-Staff, and Lieutenant Colonel Russell, the Military Government Officer for the 90th Division. By midday, Colonel Russell had arrived at the Kaiseroda mine to interview displaced persons found in the area. One of this group was Sergeant Walter Farager of the British Army, a German prisoner since June 26, 1940 who, employed in the mine as a machinist's assistant for the past year, had helped hide the gold. These interrogations also produced the information that Professor Dr Paul Ortwin Rave, curator and assistant director of the National-Galerie in Berlin was living in the Merkers area to care for the paintings secreted in the mine.

With this evidence, Russell ordered the 712th Tank Battalion under the command of Lieutenant Colonel Vladimir Kedrovsky to guard the entrances to Kaiseroda. All the mine officials were placed under house arrest and confined to their homes for the night. Personnel checked the generators so that power would be available for the elevators and electric lights when the mine was inspected early on Saturday, April 7.



**Capture of the mine is credited to Company I of the 3rd Battalion of the 358th Infantry Regiment, 90th Division (part of XII Corps) on April 4, 1945. This picture was taken just outside the main entrance.**

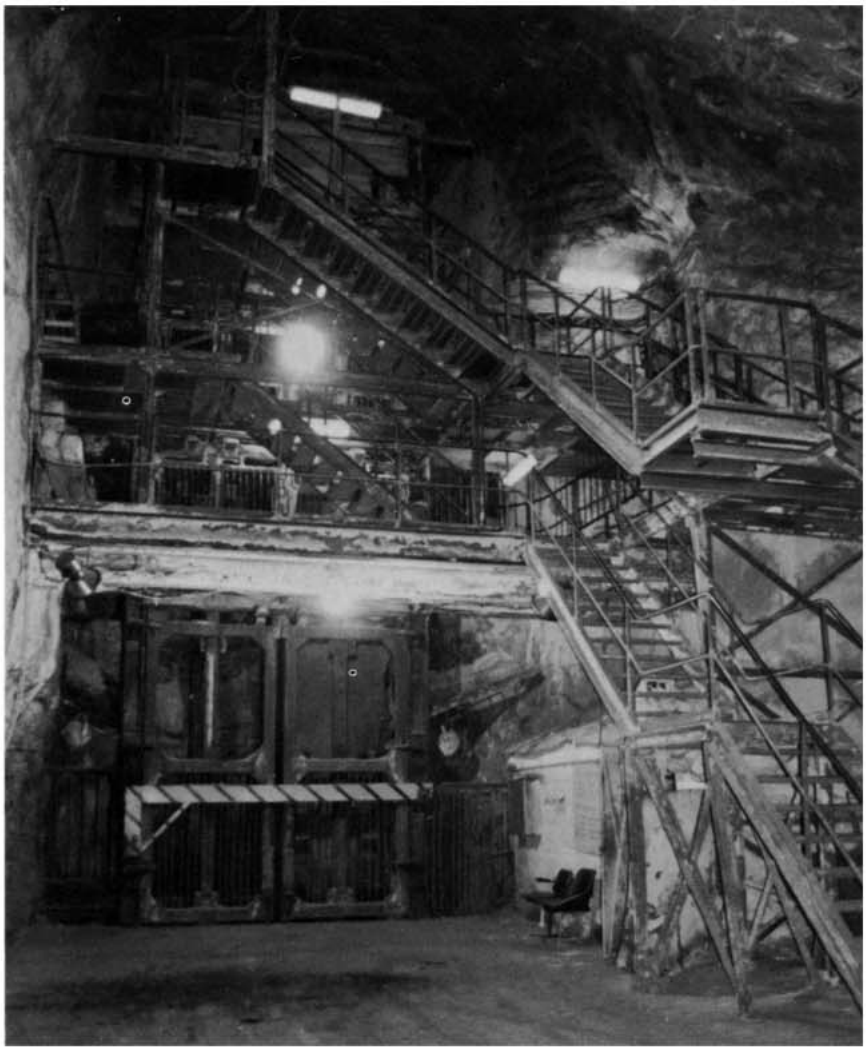
**Fifty-one years later, Karel Margry and Martijn Bakker met the mine manager, Hartmut Ruck, to take the photographs for this feature. (The underground workings are open to visitors from 9.15 a.m. to 1.15 p.m. except Mondays.) They found that the machine gun emplacement outside the entrance had been demolished.**

**Information about the mine's contents sparked an immediate XII Corps reaction after two women walking along this stretch of the Kieselbach road overlooking Merkers were taken into custody by a XII Corps military police patrol. The winding gear to the two shafts in the town can be seen — No. 3 on the left with No. 2 to its right.**

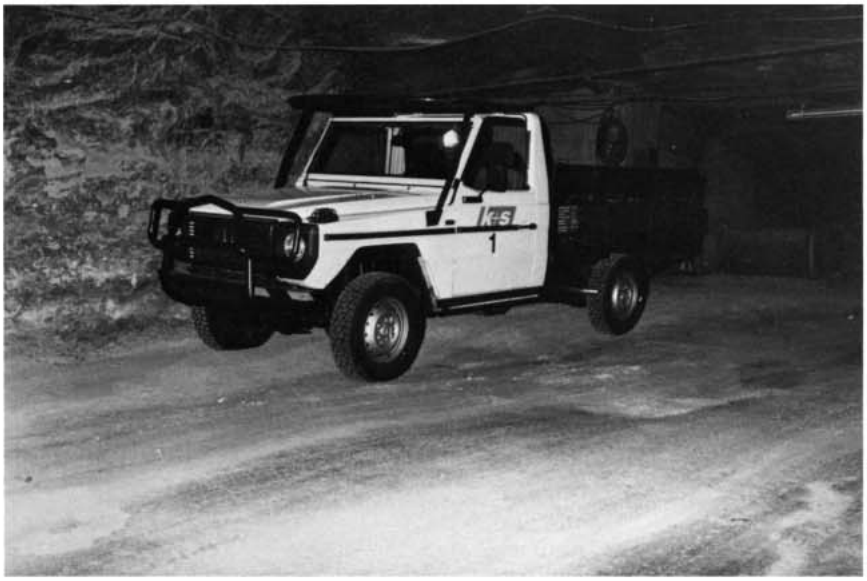
However, on Friday evening, Colonel Russell discovered that there were five accessible mine shafts, three more than the two at the main site. He decided that one tank battalion would not be sufficient to guard these entrances in view of their proximity to the front lines, and requested additional reinforcements. Shortly before 10 p.m., the 357th Infantry Regiment, commanded by Lieutenant Colonel John H. Mason, arrived in the Merkers area to relieve the 90th Division Military Police and reinforce the 712th Tank Battalion.

At 10 a.m. the following day, Lieutenant Colonel Russell, accompanied by mine officials, Dr Rave, Colonel Joseph J. Tully, Assistant Division Commander, Major Joseph Brick, Judge Advocate General, and Captain James C. McNamara, the 90th Division's public relations officer, descended into the mine shaft. According to a footnote in George B. Dyer's official history, *XII Corps — Spearhead of Patton's Third Army*, they were guided to Room No. 8 by British PoWs from 'a camp near Merkers, who had been used as labor to get the treasure in place'. Using the jocular tone of the *Time* magazine story published during the week of April 16, Dyer's account mentions that 'rumor at least had it that the original tip off was given our troops not by the Krauts but by some British PW's in a camp near Merkers . . . but Colonel Albert C. Lieber [deputy commander of XII Corps] . . . remembers that a woman was said to have given the tip off. . . .' The British PoW, Walter Farager, mentioned in connection to Russell's initial visit to Merkers mine, was, however, not mentioned in Lieutenant Colonel Carl L. Morris's detailed report to his superior, Major General Robert W. Crawford, the SHAEF G-4 (Logistics).

**The main lift shaft used by the Americans to examine the mine on the morning of Saturday, April 7, was No. 3 — the one just inside the main gate.** *Below*: **The elevator is constructed in three tiers so that three 24-man teams of miners can be transported below ground in one go.**



*Right:* **Since 1945, the shaft has been extended to service a new lower level, the old sealed wartime lift stop being now passed in complete darkness. It takes about a minute to descend the 1,600 feet — our authors, Carolsue Holland, Professor of International Relations at Troy State University, and Thomas Rothbart, political journalist for the Thüringer Allgemeine, taking this picture at the bottom in 1995.**



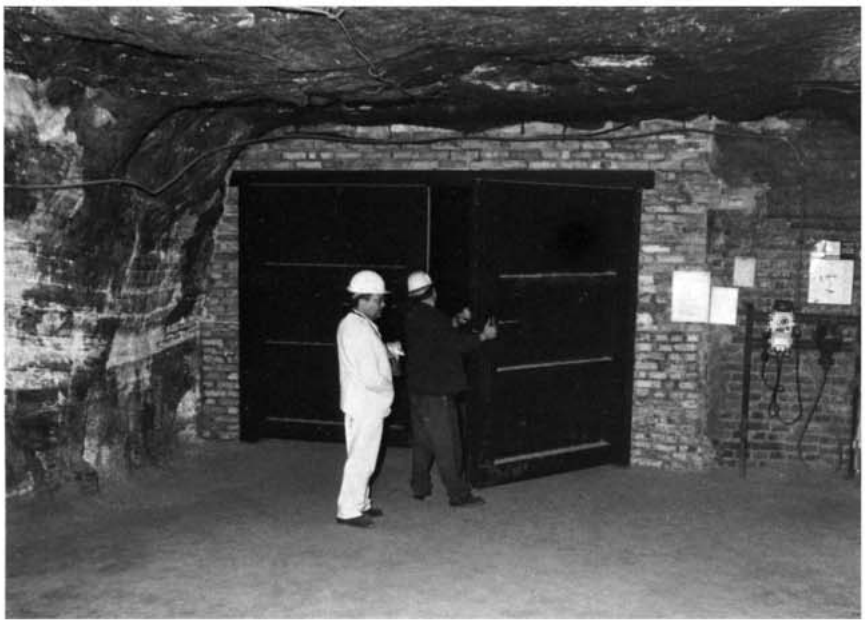
**Karel took the picture of 'his' 4×4 to match this shot *(below)* of a Jeep of the 357th Infantry in the same tunnel between Room No. 8 and Shaft No. 3 (see plan page 3). The Americans took several Jeeps down to transport the valuables — note the vehicle is on a return trip from the shaft with empty trailer. The Browning has been set up to cover the length of the tunnel. (USNA)**

*Above:* **Today, one has to drive in a 4×4 up an inclined connecting tunnel to reach the old level. 'It's all quite exhilarating', explains Karel, 'but with hundreds of kilometres of tunnels, with countless "Y" and "T" junctions, you would not want to go down without a guide. The main tunnels are 10-15 metres wide with a ceiling of 3-4 metres. It feels like driving on a motorway with no lights on a very, very dark night — with you the only one on it!'**

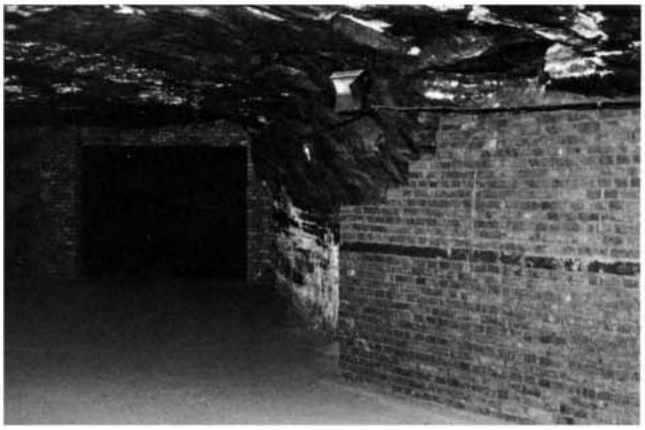
At the base of the elevator, Signal Corps photographers immediately took pictures of the bags of currency abandoned in the main haulage way after the futile attempt to resupply Berlin with Reichsmarks was interrupted by the arrival of the Americans on April 4. Russell's group continued along the passageway almost 1,600 feet underground to a steel door barring the way into a vault. Just outside this door, they found 140 additional sacks of currency. Failing in their efforts to open the vault, Russell and McNamara returned to the surface to find and interrogate Dr Veick, one of the Reichsbank officials who had come to Merkers to escort the currency back to Berlin. Veick stated that the Merkers mine contained all of the gold that was in the Reichsbank and that these reserves were hidden in the sealed vault. Arrangements were made to blast an entrance into the vault wall during the following morning.

Meanwhile, General Earnest directed that Kaiseroda be guarded by a reinforced rifle company of the 1st Battalion of the 357th Infantry supplemented by tank destroyers of the 773rd TD Battalion, tanks, and Jeeps mounted with .50 calibre machine guns. At 5 p.m., Major General Manton S. Eddy, US XII Corps commander, countermanded General Earnest's order, and retained the entire 357th Infantry in the area of Kaiseroda for security purposes. The other 357th Infantry battalions relieved the 358th Infantry and became the force guarding the areas and entrances above the 500-odd kilometres of passages and vaults which comprised Wintershall's Kaiseroda mine.

At 8 a.m. on Sunday morning, April 8, with General Earnest in attendance, Russell and McNamara escorted photographers, journalists, and elements of the XII Corps engineers into the mine. When the engineers ascertained that a hole could not be dug through the vault wall, they blasted an entrance approximately 4ft × 8ft through the masonry.



**On Saturday morning, April 7, Lieutenant Colonel Russell, the Military Government Officer with the 90th Division, led the first party down the mine, guided by mine officials and Professor Dr Paul Rave, the assistant director of the Berlin National-Galerie. They were taken to Room No. 8, sealed by a steel door. This impressive replacement *(left)* has been only recently installed for the benefit of present-day visitors. From the plan, it would appear that the original was much smaller, the new one taking up the complete width of the old door and opening which was blasted through by US engineers on Sunday morning.**



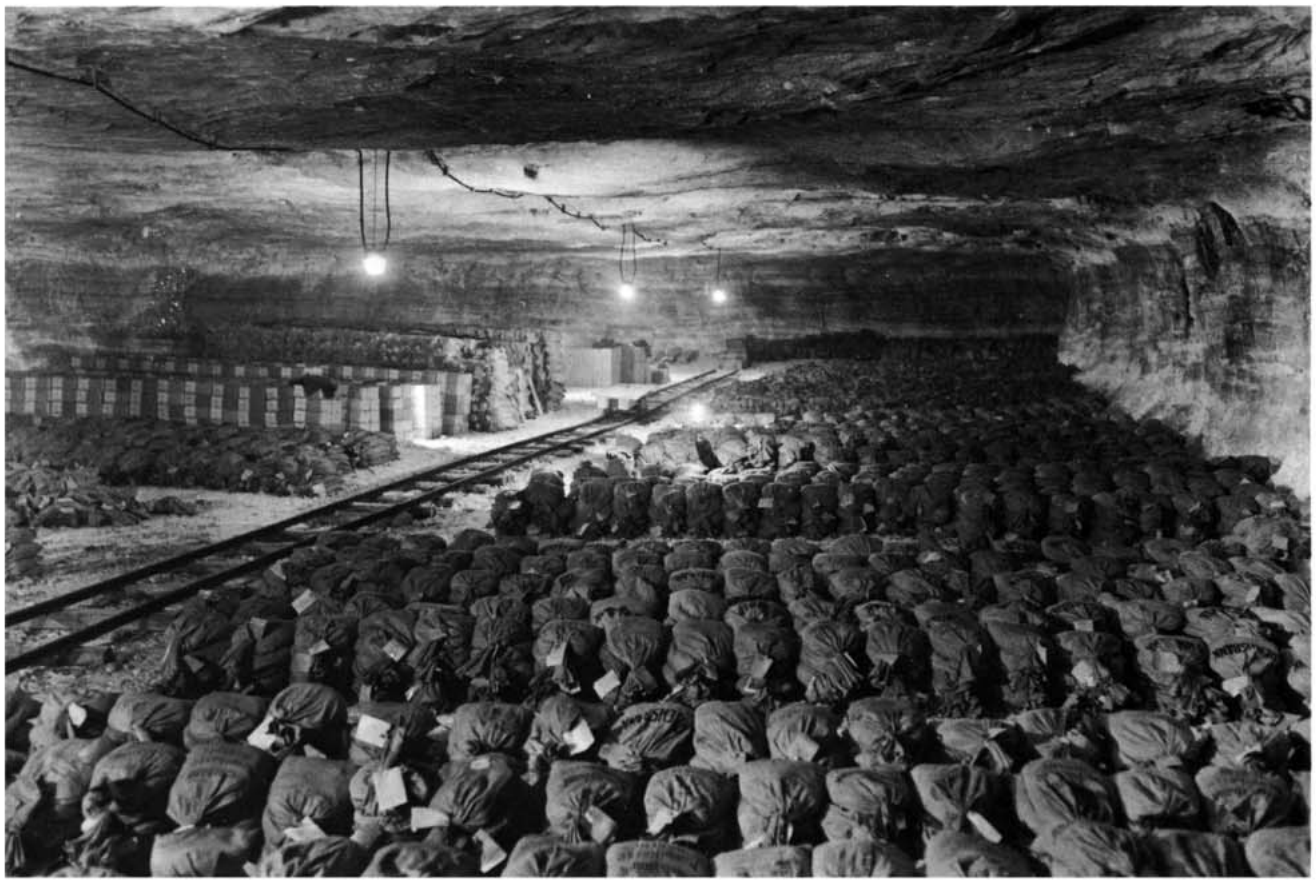
*Left:* **Reproduced from the 1947 XII Corps unit history: *XII Corps — Spearhead of Patton's Third Army* by Lieutenant Colonel George B. Dyer, this rather poor shot was taken from inside Room No. 8 looking back to the entrance with the hole just discernable on the right.** *Right:* **Today, the brickwork has been extended with the installation of the 'bank-safe'-type of door.**

Once inside, Earnest, Russell and McNamara opened the seals on some of the bags to begin a partial inventory but they were interrupted by the arrival of General Eddy, his deputy, Colonel Lieber, and his G-5 (Civil Affairs), Lieutenant Colonel Asa W. K. Billings, who had come to inspect the mine.

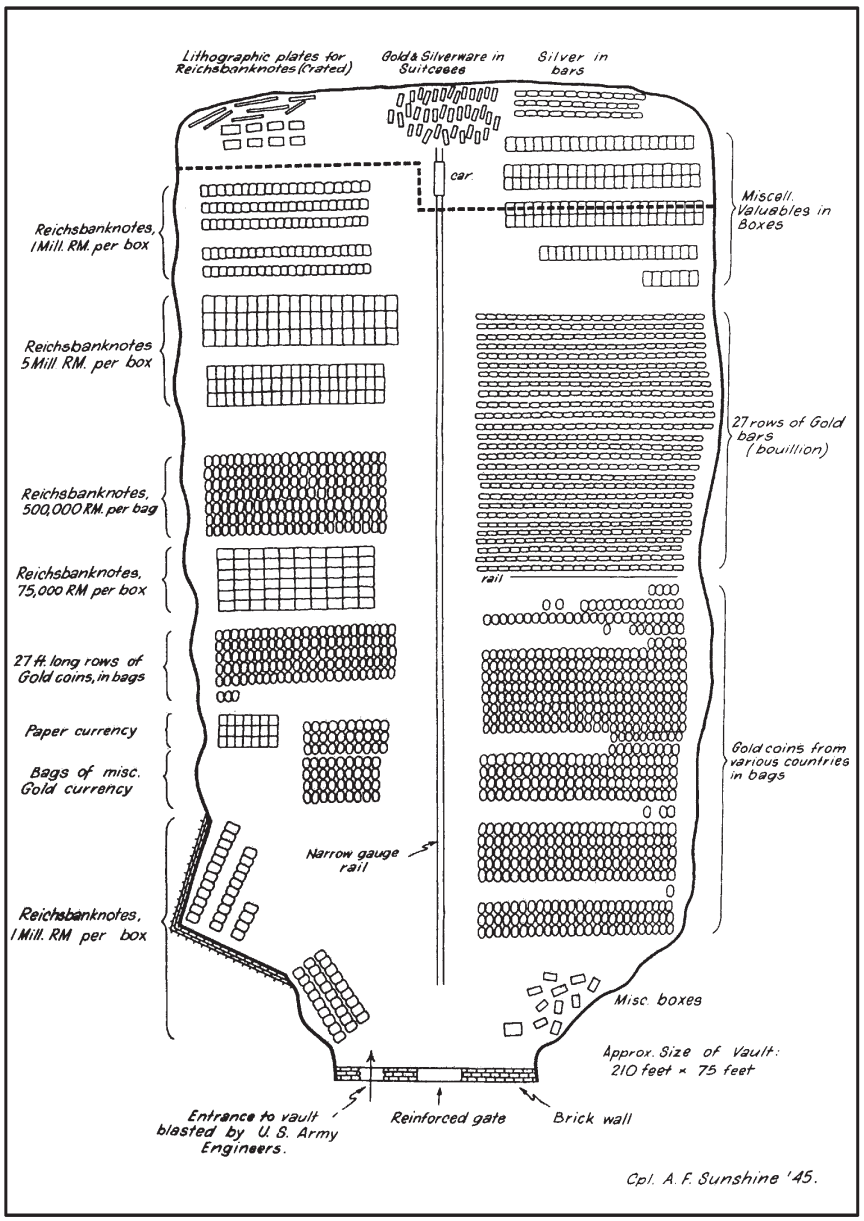
By early in the afternoon, Brigadier General Frank McSherry, the G-5 (Civil Affairs) of SHAEF in Reims, was notified about the discovery of the Kaiseroda treasure. He transmitted orders to Colonel Bernard D. Bernstein, the chief of SHAEF's G-5 (Finance), to oversee US monetary and fiscal matters under the auspices of the American Secretary of Treasury, Henry Morgenthau. Colonel Bernstein was to go forward to Merkers as soon as possible to examine the treasures and take over their control in the name of the Commanding General ETOUSA (European Theater, United States Army). Later when Colonel Bernstein arrived at SHAEF Headquarters, General McSherry informed him that he, Eisenhower as Commanding General ETOUSA, and Major General Robert W. Crawford, the SHAEF G-4 (Logistics) had decided that the entire contents of Kaiseroda be removed to a more secure area in order to relieve XII Corps combat units for tactical missions.

Meanwhile, the journalists were busy filing their stories. The Monday morning (April 9) edition of the US forces daily newspaper, *Stars & Stripes*, reported the story, stating that 'officials in Washington consider the gold in question to be the property of the United States'. Likewise, news of the discovery of the treasure in Kaiseroda mine appeared in the Paris edition of the *Herald Tribune* and in the issue of *Time* magazine published during the week of April 16.

Major General Crawford met with Lieutenant General Lucius D. Clay, Eisenhower's Deputy Military Governor; General McSherry; and Colonel Bernstein early Monday morning before the latter flew out to take control of the Merkers treasure. The chain of command established at that meeting became the basis for custodial responsibilities as well as for command and control of any other Nazi treasure troves located by American military authorities. These decisions fundamentally affected claims made later by belligerent and occupied countries whose gold had been sequestered by the Nazis. Colonel Bernstein was given discretionary power to determine a suitable new location for the contents of the Kaiseroda discovery, to coordinate the actual movement 'including taking treasure from the mine . . . arranging for trucks, security guards on the road and the permanent



**Aladdin's Cave. This was the incredible scene which greeted Colonel Russell's party when they entered the chamber. (USNA)**


Lithographic plates for Reichsbanknotes (Crated)
Gold & Silverware in Suitcases
Silver in bars
car
Miscell. Valuables in Boxes
Reichsbanknotes, 1 Mill. RM. per box
Reichsbanknotes 5 Mill RM. per box
27 rows of Gold bars (bouillion)
Reichsbanknotes, 500,000 RM. per bag
Reichsbanknotes, 75,000 RM per box
rail
27 ft. long rows of Gold coins, in bags
Paper currency
Bags of misc. Gold currency
Gold coins from various countries in bags
Narrow gauge rail
Reichsbanknotes, 1 Mill. RM per box
Misc. boxes
Approx. Size of Vault: 210 feet × 75 feet
Entrance to vault blasted by U. S. Army Engineers.
Reinforced gate
Brick wall
Cpl. A. F. Sunshine '45.

**As well as making a photographic record, a plan was produced detailing the contents before they were disturbed. Today, a false wall has been built across the end of the chamber for the back projection of a huge enlargement of the photo opposite. We have added its position (dotted line). We were allowed access to the area behind to match the pictures of the silverware in the suitcases reproduced on pages 11 and 13.**

guards at the new location'. Accompanied by Lieutenant Colonel Carl Morris, the SHAEF G-4 aide, Bernstein then left for Frankfurt in General Crawford's plane to look over the fortress at Ehrenbreitstein, rising high above the junction of the Moselle and Rhine rivers opposite Koblenz, for the storage of the treasure.

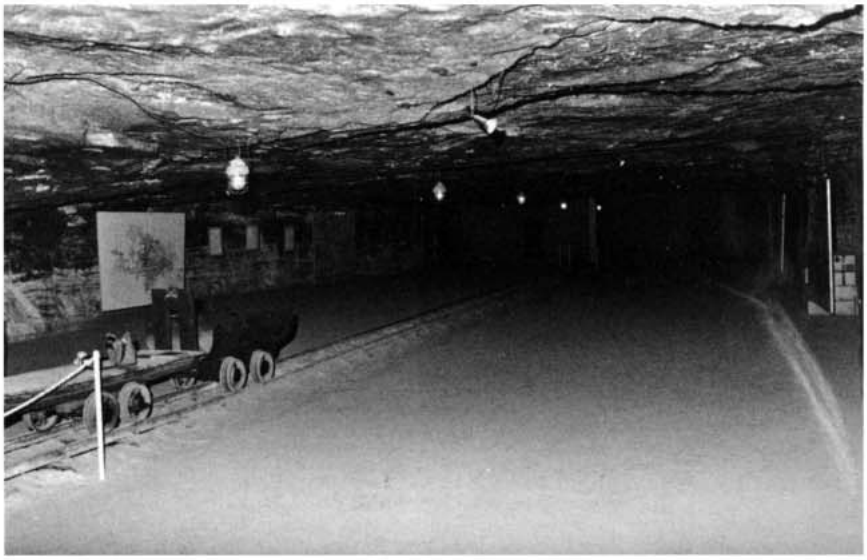
Arriving in Frankfurt before noon on April 9, Bernstein and Morris conferred with Third Army staff officers including Colonel Roy L. Dalferes, G-5, the Chief-of-Staff, Major General Hobart R. Gay, and his deputy, Colonel Paul D. Harkins, to formulate plans for the movement and administration of the Kaiseroda treasure. During the discussion General Patton joined the meeting and agreed that the treasure should be moved. He urged that it be done as soon as possible in order to release the 357th Infantry and the 712th Tank Battalion for combat. General Gay prepared a letter to General Eddy delineating Bernstein's authority for the purposes of administration, movement, and appraisal of the Merkers mine discovery as direct to Third Army. Defining the responsibility given to Bernstein, Gay's arrangements included a plan for detaching empty cargo trucks returning from forward hauls back to supply points in the Frankfurt area to convey the shipment to a secure depository.

By 2.30 p.m., Bernstein, Lieutenant Colonel Tupper Barrett, G-5, 12th Army Group, and Major Ferrara and Lieutenant J. S. Feary of XII Corps G-5, made a preliminary inspection of the Reichsbank building which was the property of Philip Holzmann A.G., located on Adolf-Hitler-Allee (today Taunusanlage) in Frankfurt. They then drove to Koblenz.

Finding the fort at Ehrenbreitstein inadequate because the great number of entrances to the storage vaults would require at least a full regiment to insure adequate security, Bernstein determined that the castle, already filled with archives and art taken from museums and public buildings by American units when they had deployed across the Rhine and Moselle river valleys, was an unsuitable location in which to store the volume of material discovered at Merkers.

By the authority of SHAEF and the town mayor, the Reichsbank building was requisitioned in the name of the Commanding General (Eisenhower). Although it was already too late to stifle publicity about the Kaiseroda mine treasure, the 'Third Army Censor was instructed by General Gay that no information of any kind would be allowed to eminate [*sic*] through private or press channels concerning the movement of this treasure', but stated that official pictures could be taken during the movement for possible release later.

Reporting to General McSherry by telephone early on April 10, Bernstein urged the assignment of both Property Control and Currency Section personnel of the SHAEF G-5 Financial Branch to the mission. McSherry verbally approved the requisition of the Reichsbank building and the retention of the services of the 1306th Engineer Regiment through the Engineer Officer, Third Army, to rehabilitate it. Lieutenant Feary was left in Frankfurt to coordinate the work with Colonel William C. Hall, the commander of the 1306th Engineers, because the tentative plan was to move the treasure to Frankfurt from Merkers by Saturday, April 14.



**The projection screen can be seen in the background, other blow-ups of the Signal Corps photos being spotlit around the walls. The floor was levelled after the war and the narrow-gauge railway line is a recent reconstruction.**

**Once the full extent of the discovery became known, the entire 357th Infantry Regiment was drafted in to guard the mine, reinforced by the armour of the 773rd Tank Destroyer Battalion. M-10s of Company A seen here guarding Shaft No. 3.**

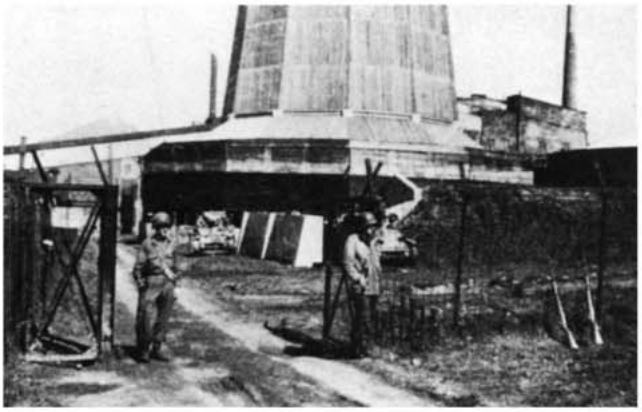
Before Bernstein and Lieutenant Colonel Barrett, the 12th Army Group G-5, drove to Merkers to establish an advance headquarters, they discussed security arrangements with General Patton and General Gay. Patton 'suggested the use of a cavalry squadron while the convoy was on the road, and Gay stated that a regiment would be required in the Frankfurt area to constitute a mobile reserve in the event of a major attack'. Lieutenant Colonel Morris's report to Major General Crawford hints that the command feared 'a major attack' less from the German military than from a rogue armed force out to enrich itself by stealing the Merkers treasure.

Once at Merkers, Bernstein and Barrett inspected the Kaiseroda mine in company with the commander of the 357th Infantry, Lieutenant Colonel Mason. Before they drove to XII Corps headquarters at Meiningen, Colonel Bernstein interrogated Dr Veick and Dr Reimer, the two Reichsbank officials who were caught in Merkers when they were unable to finish moving the banknotes back to Berlin.

Amidst very detailed explanations of his rôle in the arrangements for the Reichsbank notes and monetary bullion, Veick's affidavit claimed: 'my [first] wife and two sons live in the United States. I say all I know'. What he told Colonel Bernstein was the basis for delineation between German monetary and gold reserves on the one hand and SS loot, some of which had been found in Room No. 8 in the Kaiseroda mine, on the other.

This early point in Bernstein's investigations marked the beginning of the idea to separate the captured Reichsbank assets from what was clearly SS booty. However, when the press was told about the transfer of the treasure from Merkers to Frankfurt a few days later, most of the journalists failed to make that distinction. Consequently, even the official histories tend to lump German monetary instruments, gold bullion, reserves, and currency together with SS treasure. These early accounts were the inception of myths about great treasure troves of buried Nazi gold.

Determining the ownership of the more than 1,000 paintings and objets d'art that were found in the Kaiseroda mine was less sensational. Official inventories of the holdings of public galleries and museums were available from which to determine whether a particular item had been the property of the German state or of a sub-division thereof. Under international law these could be seized by the armed forces finding them and held until post-war restitution and reparations were arranged. Prima facie evidence that the Nazis in addition hid in Kaiseroda works of art taken from Jews and from countries occupied by the Nazis could be assured when experts of the Monuments, Fine Arts



*Left:* **The troops were deployed to guard the various entrances and shafts, these men being stationed at the rear gate.** *Right:* **Because the mine is no longer in production, all the surface buildings, save some administrative buildings, are being demolished and the cooling tower went just prior to our visit. Even though the Kaiseroda mine had 50,000 visitors in 1995, it cannot be self-supporting because of the limited number of visitors who can be carried by the lift each day. State support is currently available as part of schemes to foster employment in former East Germany.**

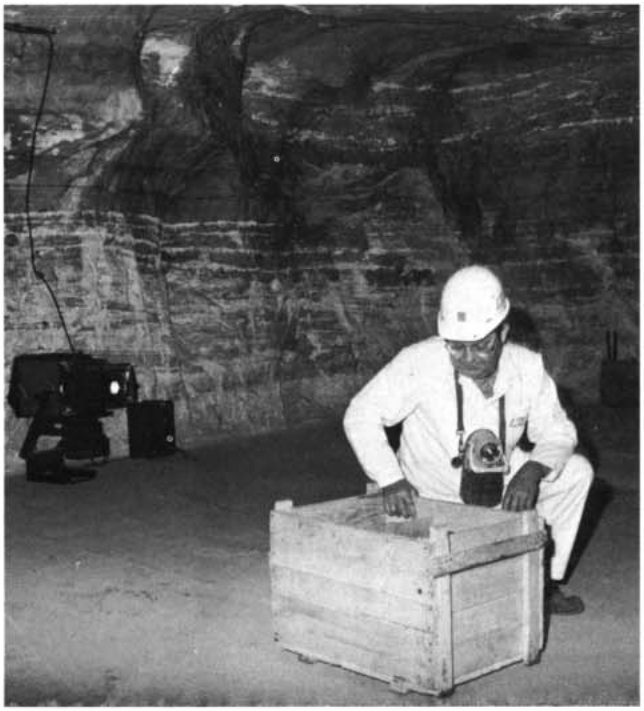
and Archives (MFA&A) group, a joint Anglo-American mission headed by the Cambridge University Slade Professor of Fine Art, Geoffrey Webb, and Colonel Mason Hammond of the United States, authenticated all the property to determine that which had been stolen. Assuming scrupulous monitoring by Colonel Bernstein's mission, as long as the entire holding found in the Merkers mine remained intact until it was examined and appraised in the secure vaults of the Frankfurt depository, it would be possible to separate out SS loot.

Establishing a command post at the Kaiseroda mine on Wednesday, April 11, Colonel Bernstein and his staff assigned personnel and made preparations for the movement of the treasure to Frankfurt scheduled to begin on Saturday, April 14. The division of G-5 personnel between Frankfurt and Merkers insured continuing administrative oversight so that future contention about the categories of various items comprising the treasures could be avoided.

Bernstein had requested as staff at Merkers Lieutenant Colonel Omer V. Claiborne, of the SHAEF Mission to France and Chief, Currency Section for France; Lieutenant Colonel William S. Moore, Commanding Officer, and Lieutenant Benjamin S. Schilling of the European Civil Affairs (ECA) Currency Section for Germany, both detached from XII Corps; Lieutenant Commander US Coast Guard Joel A. Fisher, Chief Freezing, Foreign Exchange and Property Control Section of SHAEF G-5 (Finance); Lieutenant USNR George L. Stout, G-5 (MFA&A); 1st Lieutenant William A. Dunn, Financial Branch, US Group Control Council; and an American civilian, Maurice St Germain, a gold expert who was an officer in the Paris branch of Guaranty Trust Co. of New York. Enlisted personnel from the ECA Currency Section for Germany were detached from XII Corps and assigned to the working group moving the treasure. Awaiting the arrival of the convoy in Frankfurt were Lieutenant Colonel Henry D. Cragon of the ECA Currency Section for Luxembourg and Belgium; Captain John A. Love, Property Control Officer attached to SHAEF G-5 (Finance); Lieutenant Robert Kelso of the ECA Currency Section for Germany detached from XII Corps; Lieutenant J. S. Feary, XII Corps G-5 Finance Branch; and enlisted personnel.

**Colonel Bernard D. Bernstein, the chief of SHAEF's G-5 (Finance) branch, was detailed to take charge of the contents of the mine and to speedily remove everything to safe custody to enable the 357th Infantry to be released for combat. He arrived at Merkers on Tuesday, April 10, and began to organise the operation to carry out a complete inventory and have everything moved to Frankfurt by the weekend. Here Colonel Bernstein (left) is pictured with an aide examining sacks containing gold bars and gold coins. In all, there were more than 7,000 numbered bags, each weighing between 55lbs and 81lbs laid out in more than 20 rows. (USNA)**

The British were represented by Major Francis W. A. Fairfax-Cholmeley, British Army Headquarters Branch at the SHAEF Currency Section for Germany, and Professor Geoffrey Webb, the (civilian) British chief officer of the MFA&A, who had come to Merkers with Lieutenant Stout. Permission to inspect the mine was given to Stout through the custodial authority granted to Bernstein from General Patton, but Webb as a British civilian was excluded from the interrogation of Professor Dr Rave who provided to Stout information that initiated an inspection of an additional 45 cases of paintings and objets d'art from the Kaiser-Friedrich-Museum in Berlin that were hidden in a Wintershall mine nearby at Ransbach.



*Left:* **This was the shot taken at the far end of Room No. 8 which Karel had to match behind the projection screen. (USNA)** *Above:* **Herr Ruck stands in for the Colonel.**

Colonel Charles R. Codman (Patton's aide), April 13, 1945: 'Yesterday was a full day, and a gruelling one. General Eisenhower and General Bradley arrived in the morning to inspect the industrial salt mine at Merkers in which, General Eddy had reported, was stashed away the entire German gold reserve. We were met at the mine head by Generals Eddy and Weyland, also a Colonel Bernstein from the Finance Section of SHAEF. The party was ushered into a primitive freight hoist operated by an unprepossessing German civilian. The General began counting the stars on the shoulders of those about him as the jittery elevator rattled with ever-accelerating speed down the 2,000 feet [*sic*] of pitch-black shaft. He glanced up at the single cable now barely visible against the diminishing patch of sky. "If that clothesline should part", he observed thoughtfully, "promotions in the United States Army would be considerably stimulated." A voice from the darkness, that of General Eisenhower. "O.K., George, that's enough. No more cracks until we are above ground again." At the bottom of the shaft we stepped out into a dimly lit tunnel leading to a high-vaulted area not unlike the champagne cellars of Reims. Boxes, cases, crates, stacks of paper currency, gold coin and bullion, jewels, paintings, dental bridgework and fillings. More than 100 million dollars' worth, Colonel Bernstein estimated. In a corner by itself a dozen sizeable bales of Reichsmarks. "What are those?", General Eisenhower asked. "They are earmarked to meet future German Army payrolls", the interpreter explained. "I doubt if they will be needed", General Eisenhower said.'
*Above:* Here, Eisenhower, flanked by Lieutenant General Omar N. Bradley (left), Commanding General of the 12th Army Group, and Major General Manton S. Eddy commanding XII Corps, is pictured 'walking through one of the underground treasure chambers'. The clue to the location is the inscription on the crates on the left identifying them as coming from the Antiken-Museum (ANT) in Berlin. The items from this museum came with the last two consignments from Berlin. That on March 27 comprised 72 crates of the Antiken, plus 188 from the Skulpturen-Abteilung, 38 from the Islamische Abteilung, 52 from the Volkerkunde-Museum, 37 from the Zeughaus-Museum, 3 from the Museum für Vor- und Frühgeschichte, one each from the Gemälde-Galerie and the Ägyptisches Museum, and 20 crates and 231 folders from the Kupferstich-Kabinett. On March 30, another 19 crates arrived from the Antiken-Museum, plus 45 each from the Skulpturen and Volkerkunde, 3 from the Vor- und Frühgeschichte, 51 paintings from the Gemälde-Galerie, 27 crates and 9 parcels from the Ägyptisches Museum and 5 crates and 553 folders from the Kupferstich-Kabinett. However, owing to the lack of fuel for the transport below ground, and time, not all the crates from the former delivery were moved into Room No. 20 (where most of the art was stored) and none from the latter. They were provisionally stored in the main tunnels where this picture was possibly taken. (US Signal Corps)

Reflecting on his tour of the mine with Eisenhower down a tunnel lined with priceless paintings, General Patton (centre) observed in his memoirs: 'The ones I saw were worth, in my opinion, $2.50, and were the type normally seen in bars in America'. The shadows and the narrow passageway suggest that this shot was taken in one of the tunnel corridors or in the haulage way in front of the elevator shaft. A great many paintings and packages of Reichsbank currency were abandoned in the tunnels when, on April 4, the Americans interrupted the frantic, post-Easter underground rearrangements by the Reichsbank and museum custodians responsible for the treasures in the Kaiseroda mine. (USNA)

**More certain are the pictures taken when the party reached Room No. 8.**

The last task left for the late afternoon of April 11 were the arrangements made 'in anticipation of distinguished visitors ... [expected on] Thursday morning ... [These were] to see that the mine and shaft equipment was functioning properly and that German civilians were available for questioning if needed.' Colonel Bernstein and other staff personnel had been caught underground during a power failure in the mine earlier in the day. At 10.30 a.m. on April 12, the distinguished visitors — Generals Eisenhower, Bradley, Patton, Eddy, and members of their staffs — arrived for a subterranean tour of the Merkers mine. Before they descended in the main working elevator to the passage way, the party was briefed by Colonel Bernstein about the treasure. He provided a preliminary estimate of its value, how it came to be shipped there, and discussed the plans for moving it to Frankfurt. These 'were orally approved by the visiting officers'.

The generals were then shown Room No. 8, where the meticulously stacked and organised rows of bags and packaged currency, banknotes, gold coins, and bars of gold bullion were laid out. Behind these at the far end of the 210ft × 75ft vault were suitcases crammed with obvious SS loot.

The generals also inspected the paintings and other art objects found stored in Room No. 20, further down the same mine tunnel, and alongside the tunnel at various places between the elevator and that room. Finding some 393 paintings protected only by loose wrappings or portfolios, the generals sifted through some of the 1,214 cases filled with paintings and miscellaneous objets d'art, 2,091 boxes containing engravings, drawings and prints as well as 140 rolls of oriental rugs and tapestries. These were all sent to Frankfurt on Tuesday, April 17, after the entire monetary, bullion and currency shipment — recorded as $241,113,302 — had been delivered and secured at the depository. Two days later, a 'Top Secret' inventory was sent to US Army Chief-of-Staff George Marshall indicating that preliminary assessment of the original monetary and bullion shipment from Kaiseroda consisted of, in addition, 18 sacks of gold or silver bars and '189 boxes, parcels, and suitcases containing silverware, coins, jewelry etc' thought to be 'SS property'. The inventory did not mention the former custodians of the paintings or objets d'art, or the boxes of engravings, prints, and drawings, or the rolls of carpets and tapestries. Whether these treasures were SS loot or stored for one or more of the Reich museums had yet to be ascertained.

After General Eisenhower's party left Merkers to inspect the nearby Buchenwald subsidiary camp at Ohrdruf, Colonel Bernstein assigned Lieutenant Colonel Moore the task of marking the money containers and preparing shipping documents for the movement of the treasure from the mine scheduled to begin on Saturday, April 14. Interrogations of the Reichsbank chief cashier, Otto Reimer, and the manager of the bank's Precious Metals Department, Albert Thoms, as well as Wintershall A.G. officials (Ernst Puntman, Walter Polnicke, Dr Waldemar Meyer, Hans Richter, George Peters) and employees (Dr Veil, Dr Schawe, Rathke, Kurzel, Enger, Boerner, and Rudolph) that

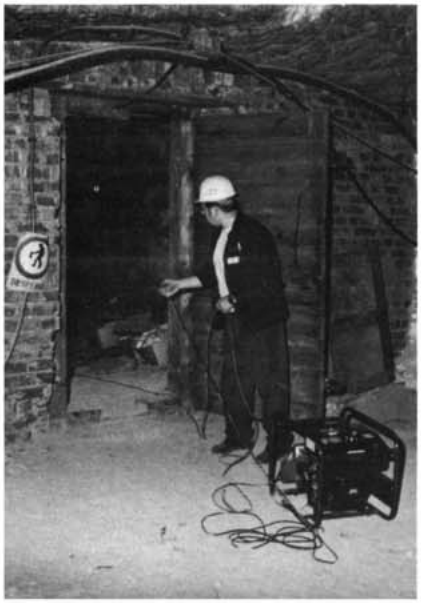
*Centre:* **With Bradley behind and Patton on the left, Eisenhower inspects one of the many suitcases filled with Nazi loot. We saw Colonel Bernstein (on the extreme right) making an inventory of the same case on page 11.** *Right:* **This is the rear part, inaccessible to visitors today, because of the projector wall.**

**The locations of some of the masterpieces left in the tunnel can be precisely identified. This spot *(left)* can be immediately recognised as being in the main tunnel between Shaft No. 2 and 3 ([5] on plan on page 3). The picture is *Winter Garden* by the French impressionist Édouard Manet (1832-83). *Right:* The girder has since been removed.**

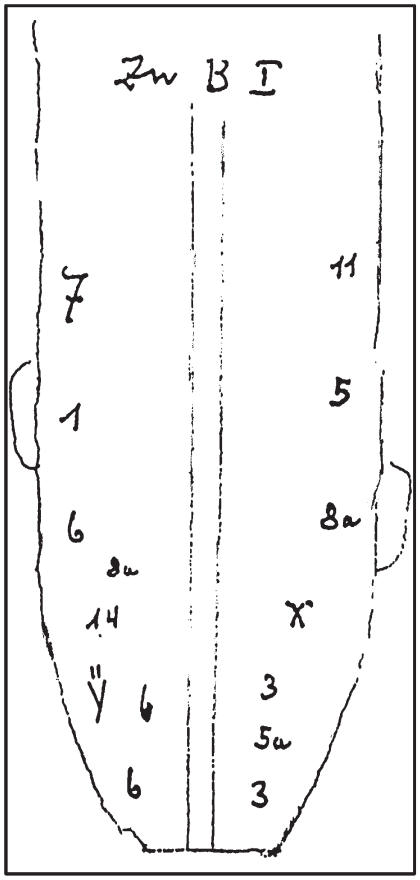
afternoon and evening provided information that other art and archival treasures were hidden in neighbouring Wintershall mines. Commander Fisher was assigned responsibility for preparing the inventories of treasure located in these mines and gathering financial and property control intelligence information.

Arrangements on Friday, April 13, were confounded by the news that President Roosevelt had died during the early afternoon (Washington time) on the day before. Nevertheless, with Lieutenant Colonel Cragon designated as the receiving officer in Frankfurt for the gold, silver and paper currency, and 32 10-ton trucks from the 3628th (this may be a typing error as the movement order states 3632nd) and 4263rd Quartermaster Truck Companies arriving by 7.30 a.m. the next day, Colonel Bernstein was able to start the loading as scheduled at 9 a.m. on Saturday.

**The interior of the art chamber is not so easy to identify. Master Sergeant Harold Maus of the HQ and Service Company, 1303rd Engineer Regiment examines a painting by the 18th-century Spanish artist Francisco de Goya (1746-1828). Above it hangs a stencil from a later era!**



**Room No. 20 is not open to visitors but it was specially unlocked for us so that we could picture the interior. It is now used to store test drilling/boring samples (in oblong wooden boxes) from this and other mines in the area.**



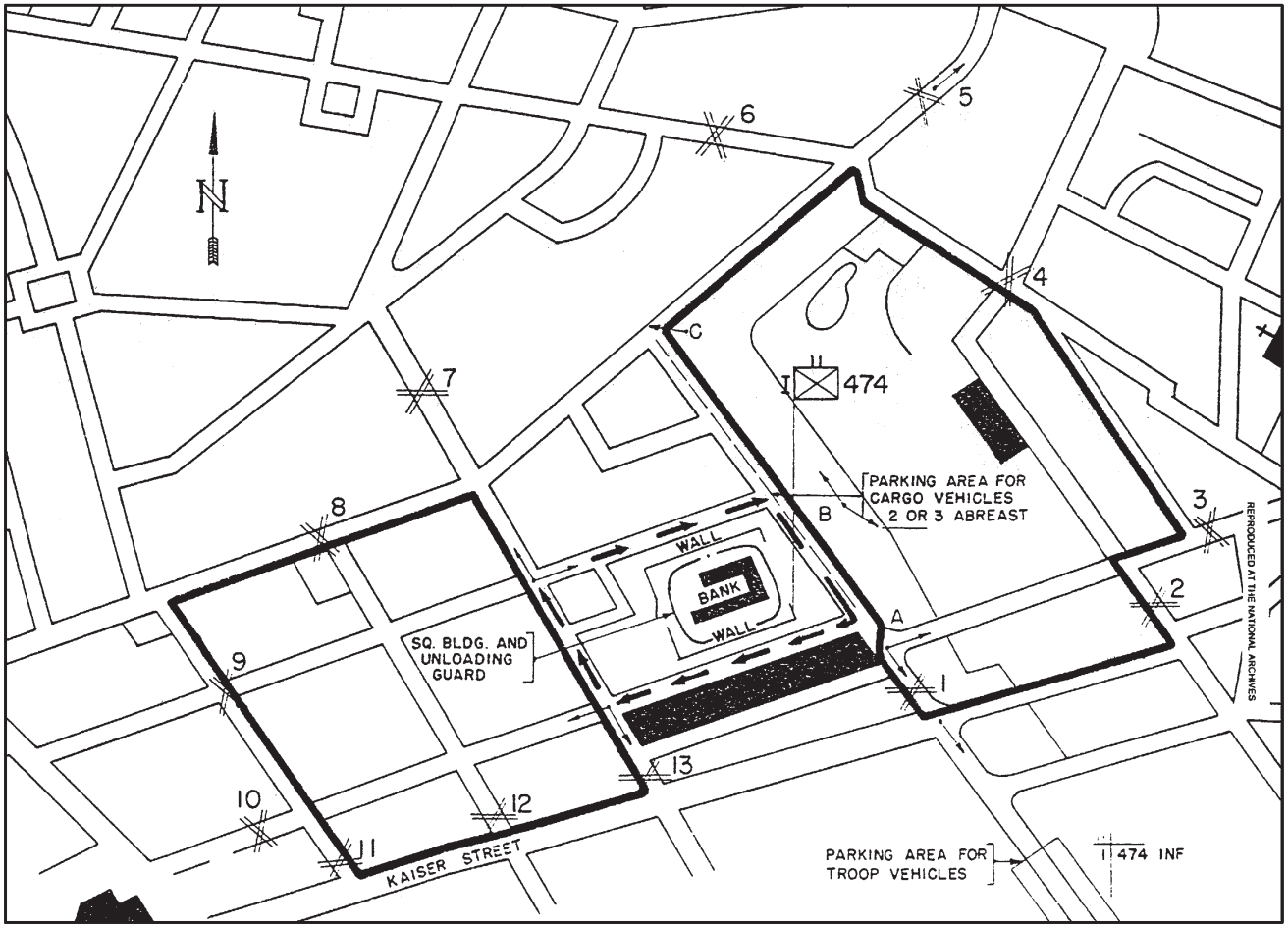
**Professor Dr Rave prepared this sketch plan *(left)* on April 11, 1945, recording the contents of Room No. 20: 'Found at "X": about three dozen suitcases of staff personnel. "Y": about 20 crates of a water maintenance agency from Königsberg. Stored from the deliveries (from March 20, 1945, onwards): 1. Ägyptisches Museum: 19 (?) crates. 2. Skulpturen-Abteilung: about 60 crates [not shown on plan]. 3. Islamische Abteilung: 1 (?) crate, 10 rugs. 4. Schloss-Museum: about 60 crates [not on plan]. 5. Schloss-Museum: 150 rugs. 6. Gemälde-Galerie: about 40 crates. 7. National-Galerie: 342 unpacked paintings on beam gratings. 8. Kupferstich-Kabinett: about 60 folders in two crates [not on plan]. 8a. Kupferstich-Kabinett: 28 small crates with handles (top quality). 11. Volkskunde-Museum: about 6 crates. 14. Library of Reich Minister of Education Bernhard Rust (private property): 79 crates.' This picture *(above)* was most likely taken in the room as the tapestry rolls and parcels on the left are tagged 'Schl.M'. (Schloss-Museum) which arrived on March 22 when there was still time — and fuel — to move them to Room No. 20. Several of the boxes stencilled 'Sk.Abt' (Skulpturen-Abteilung) have pictures of the object pasted on the outside. (US Signal Corps)**

To facilitate rapid removal, Jeeps with trailers were lowered into the mine to the 1,600-foot level and used to haul the treasure from the gold vault to the foot of Nos. 2 and 3 shafts. The trailers were disconnected from the Jeeps and hoisted to the surface, pulled by hand to loading ramps where the material was hand-loaded onto the trucks. Officers of the 357th Infantry and from Colonel Bernstein's G-5 staff checked the treasure on to the trailers in the vault and one officer accompanied each trailer to the hoist, staying with the load until it reached the surface where it was passed to the officer preparing inventories for each truck. The officer who had accompanied the trailer returned with it to the interior of the mine for another load.

The system of checking the treasure began with one officer and one enlisted man stationed at the inside of the door of the vault. That officer checked and called out the numbers as the bags were taken out of the door and loaded on to the Jeep trailers. The enlisted man at the door wrote the number on a sheet of paper to be used as a load slip for each container in the load. Once hoisted up, the officer on the trailer signed the load slip and turned it over to the G-5 currency section officer supervising the loading at the truck ramps. An enlisted man from the currency section called out the numbers of the items as they were put into the truck and the officer checked the load slip in order to verify that each item which left the vault below was loaded on the truck. The truck loading officer recorded the truck and trailer number, the names and serial numbers of the drivers and assistant drivers, and any special guards assigned to that particular truck, and initialled the load slip so the security officer could return it to the vault where the enlisted man at the entrance checked it against his register to verify that all containers removed from Kaiseroda were inventoried and accounted for.

While the treasures from Room No. 8 and the corridors of Kaiseroda mine were being loaded, Colonel Bernstein called a meeting with Lieutenant Stout of MFA&A, Captain Dunn of US Group Control Council, and Lieutenant Colonel Barrett of 12th Army Group to arrange the movement of approximately 400 tons of fine art stored in Room No. 20 and other parts of Wintershall's mines in the Merkers area. These were brought to the surface on April 15 and 16. Loading of these precious masterworks was to begin at 12 noon on Monday, April 16, using 39 10-ton trucks procured from an American Frankfurt-based Highway Transportation Division. These arrived in three convoys of 13 each by 9 a.m. on the Monday morning.

**The removal of the Merkers treasure trove began on Saturday, April 14, following a carefully-planned procedure to ensure nothing went astray. In all, the monetary cache was valued at $241,113,302 — then the equivalent of £60 million at the exchange rate of $4 to £1 — in today's terms possibly £1,300 million. (The military exchange rate fixed in 1945 for the Reichsmark was RM10 to $1 or RM40 to £1). Here, 1st Lieutenant John A. Busterud of HQ Company, 1st Battalion of the 357th Infantry, the commander of the battalion's munitions and security platoon, checks off the numbers stencilled on the bags of gold as they are removed from Room No. 8. There was a double-check as the bags were taken out of the chamber and again when each load reached the surface and was loaded onto the trucks for onward shipment to the depository which had been prepared in Frankfurt. (Courtesy J. A. Busterud)**




**A designated route from Merkers to Frankfurt had been drawn up by HQ 1st Battalion of the 474th Infantry, the unit now responsible for safe transit. From the mine, the convoys would use Reichsstrasse 62 to join the Autobahn at Bad Hersfeld. Leaving the A5 at Bad Homberg, Frankfurt was entered from the north via the Friedberger Landstrasse to the city centre where the whole area surrounding the Reichsbank building on Adolf-Hitler-Allee had been cordoned off. There were road blocks at 13 places surrounding the bank, 1, 5 and 8 comprising heavy machine gun squads, the remainder half-squads of riflemen. Heavy machine gun positions were also established at A-C. The routes for foot patrols (solid line and arrowed) were also specified. In addition, once the convoy arrived, scout cars were to be deployed at Road Blocks 1, 4, 5, 6, 7, 8, 10 and 12 and Quad .50-calibre AA guns to perform ground defence at 2, 3, 9, 11 and 13. Five more .50s were to be located within the perimeter for anti-aircraft protection.**

## FRANKFURT

The gold convoy departed from Kaiseroda mine at 8.45 a.m. on Sunday, April 15, just one hour after the loading was certified as completed. Colonel Bernstein and his staff travelled to Frankfurt by car 'to make arrangements for receiving and storing the gold and currency within the vaults', according to Morris's report to General Crawford. The convoy arrived in Frankfurt at 3.45 p.m., having travelled on secondary roads as well as the Autobahn without any incident. Unloading began immediately and continued throughout the night until everything was secured in vaults by 1.30 p.m. on Monday, April 16.

The convoy carrying the 400 tons of art, loaded during that Monday until the job was completed at 9 p.m., left Merkers at 8.30 a.m. the next day, Tuesday, April 17. Morris's report stated there was 'approximately the same strength security guard as the gold convoy with the exception that fewer tactical aircraft were used'. Instead of the anticipated 39 trucks in the art convoy, 26 were loaded with art, two were loaded with prisoners, and two were empty for use in case a transfer of loads was necessary. The remaining nine trucks were sent to Forward Class III Depots to bring back empty jerricans to the Frankfurt area.

Just after dark on Tuesday, April 17, less than two weeks since the major discovery of precious metals, bullion, currency, and objets d'art in Merkers, everything was secured in the building in Frankfurt, now designated as the Frankfurt Exchange Depository (FED). Under supervision of Lieutenant Stout and Captain Dunn, the boxes and cases of art objects were placed in the protected areas according to each department of the German state museums. By 10.30 p.m., a tentative inventory of the gold, silver and currency was in the hands of General McSherry. At this point, the Americans already had clearly separated the SS loot that would become Shipment 1 from the other assets: the gold, coins, bullion, monetary reserves, from the Berlin central Reichsbank, the objets d'art from the state galleries and other Third Reich plunder.

**The Reichsbank building was renamed by the Americans the Frankfurt Exchange Depository but today it is the Landeszentralbank Hessen.**

**FROM BUCHENWALD: SHIPMENT 16**

At 5.30 p.m. on the afternoon of Wednesday, April 11, an American staff vehicle pulled out of the stream of the Third Army's military traffic passing the main gate of Buchenwald concentration camp. The car turned in at the front entrance where Lieutenants Edward Tenenbaum and Egon Fleck, two Psychological Warfare Division (PWD) officers, stepped out to be greeted by members of the inmate committee made up of all the nationalities incarcerated in the camp. As the *Buchenwald Report*, organised by inmate Eugen Kogon and submitted to PWD, SHAEF, by 2nd Lieutenant Albert G. Rosenberg (commander of Detachment B, 4th MRB Company), on May 11, 1945, expressed: 'A total of 21,000 prisoners had been rescued — 3,000 French, 2,000 Poles, 2,000 Czechs, 5,000 Russians, 600 Yugoslavs, 200 Italians, 200 Spaniards, 2,200 Germans, 6,000 other anti-fascists. They owed it to the US Third Army and their own international collaboration that on April 11, 1945, fascist slavery had ended for them and a new life in freedom had begun.'

Indications that the inmates intended to take matters into their own hands were made known to the Americans as early as April 8, when a home-made radio began to transmit

**Buchenwald — literally 'Beech Forest' — never existed as a village, the innocuous-sounding name being coined for the concentration camp built on the northern side of Ettersberg Hill, north of Weimar, in 1937. Units of the US Army's 4th and 6th Armored Divisions reached the camp on April 11, 1945 but, based on arrangements worked out at Allied meetings at Malta (January 1945) and Yalta (February 1945), the Americans turned over the area to the Soviet forces when the formal zoning of Germany came into effect on July 1. The Soviets then used it as an internment camp — Speziallager Nr. 2 — until 1950, shortly after the German Democratic Republic was organised. Between 1954, when the GDR earmarked it for memorialisation, and 1958 when Otto Grotewohl, the Prime Minister, dedicated it as the first anti-Nazi memorial on German soil, a large monument, incorporating three mass graves, was erected on the south flank of Ettersberg Hill. During the 40 years under GDR control, literature available at the camp emphasised the 'anti-fascist' nature of Buchenwald as a memorial site; now, like all historical sites in the former GDR, Buchenwald has been subjected to a 'revision of the basic concept' or, as the Germans so well put it: 'Überarbeitung der Gesamtkonzeption'. At Buchenwald, this revision focuses on war crimes issues: evidence derived from the American discovery of the treasures in the quarry as well as the collusion between the SS and the 'German political prisoners' (a euphemism for the German communists who were interned there) in the internal administrative operations of Buchenwald as a concentration camp. (RIOD)**

'SOS Buchenwald', according to Armin Walther, a German inmate whose job at the camp was to build and repair communication equipment for the SS. Thus, by 2.10 p.m. on April 11, when Combat Team 9 of the 9th Armored Infantry Battalion of the 6th Armored Division of the Third Army arrived at the main gate on their way to take the Weimar sewage treatment plant, prisoner shock-troops had taken control of the command tower at the camp gate by disarming and holding as prisoners those SS guards who still remained after the camp administration had fled. Armed groups of inmates systematically began patrols outside the perimeters to capture any SS who were hiding in the surrounding forests once the American tanks were in the immediate vicinity.

**The American Army immediately established humanitarian and relief missions throughout Buchenwald concentration camp . . . yet the Commander-in-Chief has not lived to see the final victory. The Stars and Stripes fly at half-mast in front of the SS-Kommandantur building following the death of President Franklin D. Roosevelt on April 12 — the day after US forces arrived. (RIOD)**

Tenenbaum and Fleck described their arrival at Buchenwald in the following words: '. . . turn[ing] a corner onto a main highway, . . . [we] saw thousands of ragged, hungry-looking men, in orderly formations, marching East. These men were armed, and had leaders at their sides. Some platoons carried German rifles. Some platoons had Panzerfausts on their shoulders. Some carried 'potato masher' hand grenades. They laughed and waved wildly as they walked, or their captains saluted gravely for them. They were of many nationalities, a platoon of French, followed by a platoon of Spaniards, platoons of Russians, Poles, Jews, Dutch, mixed platoons. Some wore striped convict suits, some ragged uniforms of the United Nations, some shreds of civilian clothes. These were inmates of Buchenwald, walking out to war as tanks swept by at 25 miles an hour.'

By nightfall, Tenenbaum and Fleck had first-hand evidence of the orderly processes by which the inmate committee had begun to manage the camp. Spending their first night in beds in Block 50, the Typhus Experimental Laboratory where victims of typhus injections had been observed as they died, they began immediately on April 12 (the day of General Eisenhower's inspection of the Kaiseroda mine at Merkers and the Ohrdruf camp) to interview some of the inmates.

By evening, Eisenhower had been notified that Buchenwald had been liberated. But in the words of Fleck and Tenenbaum: 'The full truth about Buchenwald will never be known. To approach it, a large staff of interrogators would be necessary, as well as some means of protecting witnesses. The look of terror in the eyes of inmates when certain questions were asked was not lost on [us]. Names of informants are not given in this report. They are still in Buchenwald, and would undoubtedly be in gravest danger if what they said ever becomes known there. The major informants are two Allied intelligence agents who were caught by the Germans.' (These were probably two British spies, Wing Commander Forest Yeo-Thomas and Captain Christopher Burney, who had been apprehended by the Germans earlier during the war and incarcerated in Buchenwald.)

Completed by Saturday, April 14, two days before Lieutenant Rosenberg's four-man team arrived to do an in-depth study of Buchenwald for Psychological Warfare Division (PWD) SHAEF, the Fleck-Tenenbaum preliminary report as revised from the original was not released by 12th Army Group Headquarters PWD until April 24 to SHAEF under a 'restricted' security classification. By April 24, conditions and the ideological affiliation of the inmate committee at Buchenwald had already been the subject of a parliamentary question in the House of Commons raised by F. E. Smith, MP. Within the ten-day period, delegations from the legislatures of the United States (led by Senator Alben Barkley) and Great Britain (led by the Earl of Stanhope), internationally prominent journalists, US labour leaders, and well-known American clergymen as well as a special French mission had witnessed the horrors and atrocities found at the camp at the invitation of Eisenhower.

**The field-guns have long gone but the SS building still survives, albeit with post-war extensions. Picture taken from the balcony of the main gatehouse seen overleaf.**

**As the first concentration camp to be opened to the Allied news media and legislators from Great Britain and the US, and international relief missions, the revelation of the horrific scenes within Buchenwald — like those at Belsen entered by British forces a few days later (see *After the Battle* No. 89) — shocked the world. Eisenhower called in the Allied War Crimes Commission, the inspection team arriving on April 26. R-L: Lieutenant Colonel J. V. Hodgson, US Army (accompanied by Lieutenant Commander Latta, US Navy), Wing Commander E. R. Hopkins (Canada), Dr B. Ecer (Czechoslovakia) and a US Navy escort, Lieutenant Prowse, view bodies left in the enclosed courtyard of the camp crematorium. (USNA)**

Meanwhile, in order to complete an encirclement to trap the Germans, Patton's Third Army continued on toward Bavaria to capture a Nazi alpine redoubt alleged to be located there. Control over the area surrounding Weimar, including Buchenwald, was transferred to Lieutenant General Courtney H. Hodges's US First Army which had moved south and east by the time the United Nations War Crimes Commission, headed by Lord Wright, arrived on Thursday, April 26, to inspect Buchenwald.

Lord Wright was 'to confirm at first hand . . . [the indictments] which it had already made' and his report entitled *Visit of Delegation to Buchenwald Concentration Camp in Germany* was submitted to the UN War Crimes Commission in less than five days, on May 2, 1945. Not only had the delegation visited Buchenwald at the invitation of General Eisenhower, they provided a preliminary briefing at SHAEF Rear Headquarters on their return trip to London on April 27. Describing the functions of the commission as it had been organised, Lord Wright mentioned that Colonel Claude B. Mickelwaite, Staff Judge Advocate of 12th Army Group, and Colonel M. Brannan, Staff Judge Advocate of the US First Army, had greeted the members at the camp and, at the initial meeting, had introduced Major Howard M. McBee, the First Army Judge Advocate staff officer who had been sent to Buchenwald by his superior, Lieutenant Colonel John W. Bonner 'with the view of learning everything possible about the camp so that we would be familiar with it at the time we acquired jurisdiction'. McBee's role as guide and his comprehensive orientation was described in Lord Wright's report as formidable. Indeed, Major McBee had spent all the subsequent waking hours showing the camp and its sub-divisions to the delegation.

**The building in the background is the mortuary (where no doubt any gold teeth were removed), the crematorium itself being out of the picture to the right. Karel's comparison takes in the wider view to show the relationship between the two buildings.**

*Left:* **The Commission inspected the cellars where, the contemporary caption says, 'victims were hung from hooks in the ceiling until dead'. (RIOD)** *Right:* **The cellar of the crematorium was probably used for fuel storage for the coal-fired ovens above — the chute is visible. Deliberately falsifying the historical record, the East Germans enshrined the crematorium to honor the memory of pre-war leader of the German Communist Party, Ernst Thälmann.**

**Buchenwald was a work camp and the inmates were employed both in the nearby quarry and at radio and armament factories. The bombing of the Gustloff-Werke, which lay south-east of the semi-circular SS-Kaserne (barracks), by the Eighth Air Force on August 24, 1944 was later used by the GDR to claim that Thälmann died in the attack. However, the Fleck-Tenenbaum report (drafted by the two US Psychological Warfare Division officers who were first to arrive at the camp) states otherwise: 'This bombardment was used as an excuse for the murder of Ernst Thälmann, the famous German communist leader, though Thälmann had never been in Buchenwald.' (RIOD)**

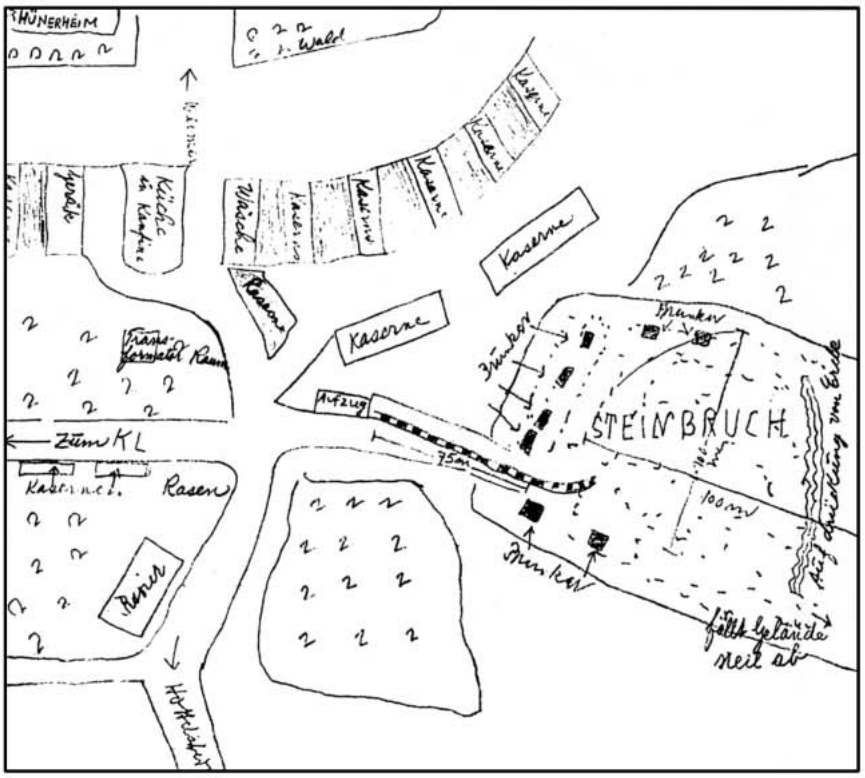
It was not until the War Crimes Commission delegates had left on the morning of April 27 that Major McBee was able to track rumours about treasure hidden in the nearby quarry ('Steinbruch' in German) by interrogating two German ex-prisoners, Armin Walther and Kurt Mascheswki. They found Friedrich Mueller, another ex-prisoner who had worked in the disinfection section of Buchenwald, who denied knowing anything about 'hidden property taken from the inmates of the camp'. Instead, Mueller took Major McBee to the quarry to show him a cave where, at the orders of the SS, he had placed a poison gas canister which, he claimed, was a sham.

Once it was determined that the area in the camp quarry was not booby-trapped by poison gas, Major McBee brought two inmates who had formerly worked in the quarry to the site and 'upon questioning them . . . discovered two air raid shelters had been located near the spot Mueller indicated. These shelters had been completely covered by blasting, the marks of which showed near the upper rim of the quarry.' Later, after making arrangements for a German civilian work detail from Weimar for the next day, April 29, Major McBee 'crawled through . . . [a small hole made into entrance No. 1 of what ostensibly had been two air raid shelters] and made an investigation of that part of the tunnel [where there were] . . . several suitcases, and wooden boxes, and also a few barrels visible'. Such was the discovery of what was to become part of Shipment 16.

**Air raid shelters for the use of the camp personnel were tunnelled into the side of the quarry which lay just west of the SS barracks. (BWA)**

**All but six of the SS barrack blocks were demolished in the 1950s. (See plan on page 2.) Of the rest, only foundations remain but the ramp of the tip-cart rail line from the quarry floor can still be discerned.**

**Two days before Buchenwald was transferred from the jurisdiction of the Third Army, the First Army's Chief of War Crimes, Lieutenant Colonel John W. Bonner, ordered one of his investigating officers, Major Howard M. McBee to familiarise himself with the camp. As the escort of the War Crimes Commission until they left on April 27, McBee learned of rumours that the SS had hidden valuables in the quarry and located the area later that day. After digging for three hours, a small opening was made into the first bunker and McBee crawled inside to find several suitcases, wooden boxes and barrels which were removed. Preparations were made to excavate the area on the following day using a German civilian work detail from Weimar. Once a second entrance was opened, everything in the tunnels and bunkers was removed. On May 2, Colonel Bonner inspected the interiors with McBee and, being satisfied that nothing was left, ordered the tunnels to be sealed.** *Right:* **This hand-drawn sketch of the quarry was found in April 1945 among SS documents by members of the US First Army G-5 (Finance) and became one page of a report that accompanied the inventory of the SS loot sent to Frankfurt from Buchenwald as Shipment 16. From a topological perspective, features like buildings, roads, and foliage do not conform to distances, positions, or structures as they were in April-May 1945.**


HÜNERHEIM
Wald
Küche
Kaserne
Kaserne
Kaserne

**Teams of military personnel, helped by a few Buchenwald internees who had professional knowledge of gems, sorted and counted the valuables recovered from the quarry, estimated at a gross weight of nearly 21 tons! According to Lieutenant Colonel Bonner, his office soon became overloaded, at which point a separate building (since demolished) near the quarry on the grounds of Buchenwald was made available to sort what was to become evidence for future war crimes trials.**

On Tuesday, May 2, Major McBee transferred custody of the quarry find to the First Army Inspector General.

On Friday, May 5, Colonel Damon M. Gunn, the First Army G-5, issued a memorandum for his subordinate, Major A. H. Whitman, who was designated to assume responsibility for the quarry find from the Inspector General. Colonel Gunn's directives to Major Whitman included crating, packing, and loading so that the convoy could leave for the Frankfurt Exchange Depository by 7 a.m. the next day.

Major Whitman's Annex I of the inventory accompanying the property to be designated as Shipment 16 included the packing schedule for items of special value in addition to a tentative valuation. Before Shipment 16 left Buchenwald for the Frankfurt Depository, 12th Army Group War Crimes Board noted that Colonel Bonner was concerned about assuring retention of at least two of the six 'truck loads of currency, jewelry, gold fillings, silverware, etc. which had been recovered in a cave outside of Buchenwald. . . .'

The convoy transporting Shipment 16 to Frankfurt consisted of six 2½-ton trucks, two armoured cars, one MP motorcycle, and one Chevrolet. It arrived at the FED late in the afternoon of May 6.

By the time Lieutenant Colonel Cragon and Captain Paul McCarroll signed receipts on May 7 for '313 boxes or other containers numbered 1 to 313, inclusive', Major Whitman's shipment was deposited in safekeeping for account of the War Crimes Section, Staff Judge Advocate, 12th Army Group. On May 11, Colonel S. E. Senior, First Army Assistant Adjutant General, provided to General Bradley, the commander of 12th Army Group, the description, receipts, and annexes dealing with Shipment 16, assuring that it was clearly in the custody of the Frankfurt Exchange Depository.

General McSherry, the SHAEF G-5, inspecting the FED on May 28, issued 'verbal instructions . . . [that] two small boxes (Nos. 313 and 168) from Shipment No.16 stored in room 2 (air raid shelter) were [to be] removed and placed on display in room 15 (vault)'. The memorandum documenting the display, drawn up by Colonel Cragon and his deputy, Major Edward Jesser, reported that 'the boxes were opened and part of the contents displayed. Contents were returned to boxes which were then closed and returned to the original depository.'

*Above:* **More than 600lbs of fountain pens, wrist-watch straps and novelty jewellery were found.** *Right:* **Sorting precious and semi-precious stones. (USNA)**

**Grim reminders: a box containing hundreds of wedding rings (*left*), and (*right*) thousands of gold teeth. (USNA)**

Major McBee's and Colonel Bonner's affidavits were sworn at First Army Headquarters, then located in Weimar, on May 8, 1945, just one week after the entire treasure from the Buchenwald quarry was turned over to the custody of the Inspector General and two days after Shipment 16 arrived intact at the Frankfurt Exchange Depository. Altogether, Major McBee's discovery in the quarry constituted an inventory of loot filling 313 boxes, barrels, cases, crates, and packages. As FED records show, the official accounting of Shipment 16, recorded by Colonel Bernstein during the summer of 1945, stipulates that a total of 313 containers, later re-arranged to 319, were in the custody of the Frankfurt Exchange Depository awaiting war crimes adjudication.

**Major Howard McBee looks over his treasure trove, which included more than 17,000lbs of silver tableware, before the crates were sealed to be transported as part of Shipment 16 to the Frankfurt Exchange Depository on May 6. (USNA)**

**In the summer of 1945, Colonel Bernstein (bare-headed on right) put on a huge display of captured gold, silver, diamonds, foreign currency and other valuables stored in the underground vaults of the Frankfurt Depository. This was then estimated as the largest concentration of treasure the world had ever seen, valued then at around $500,000,000, somewhere over £3 billion plus at 1996 prices.**

## FROM FRANKFURT: SHIPMENT 1 AND SHIPMENT 16

The official US Army historians, Charles B. MacDonald and Earl F. Ziemke, make no mention of Major McBee's discovery of the Buchenwald treasure that subsequently became Shipment 16, and in February 1994, Brigadier General Harold W. Nelson, the chief of the US Army Center of Military History, explained that their files revealed 'no specific information to indicate that the US Army removed from Buchenwald concentration camp and shipped to the United States valuables that the German SS had confiscated from Jewish prisoners in the camp'.

It is clear that since April 1945, when Colonel Bernstein made the initial differentiation between Third Reich assets and plunder on the one side and Nazi loot on the other, few people, if anyone, noted discrepancies between the complete accounting of the inventory taken from Merkers and the inventory listed as Shipment 1 from Merkers. The designation of shipment numbers was simply Bernstein's way of separating SS loot from other assets.

When allegations of grand theft and major pilferage against American military personnel and occupation forces surfaced in Bavaria during the late summer of 1945 (see *After the Battle* No. 31), classified military records screened out many of the details about the treasures that were in the custody of the Frankfurt Exchange Depository pending the collection of evidence for forthcoming war crimes trials. Political tension between General Lucius D. Clay (an Army career officer who became American Deputy Governor in Germany in July 1945) and Colonel Bernstein (whose patron, US Secretary of the Treasury Henry Morgenthau, facilitated his attachment to SHAEF G-5 finance) may have deflected attention away from the latter's systematic classification schemes. Once Bernstein left the European Theater, shortly after the Paris Conference establishing the Inter-Allied Reparation Agency was held between early November and mid-December 1945, security classifications shielded the open exchange of information between the various American commands and agencies about the movement and custody of Nazi loot as well as Third Reich assets and plunder.

Since a few American officers were suspected of plundering Third Reich treasures, nothing specific about 'Nazi Gold' was retained in the official files. Later, sanitised records were returned to the Office of the Chief of Military History (OCMH). Therefore, details of Colonel Bernstein's 'shipments' remained part of the Frankfurt Exchange Depository papers.

As late as the Potsdam Conference between July 17 and August 2, 1945, the Americans were reluctant to abandon claims not only to the SS loot, but also to the Third Reich assets and plunder. They believed that as a bargaining point, sharing the treasures 'will turn upon how far other nations yield to our views on reasonable definitions of both "restitution", "war booty" and an accounting

**After the Buchenwald war crimes trials ended, Colonel William G. Brey, USFET (United States Forces European Theatre) and Chief of the Frankfurt Foreign Exchange Depository, showed Abba P. Schwartz, Director of Reparations for International Refugee Organizations, the assets captured from the quarry and used as prosecution evidence. In 1948, these were sold through the Bank of England by the Inter-Allied Reparation Agency (IARA), which had been set up in January 1946, and the proceeds used to fund refugees. (USNA)**

**A second organisation, established by Britain, France and the United States in September 1946, was the Tripartite Commission for the Restitution of Monetary Gold which had, as its title implies, the job of handing back gold found in Germany and other countries to its rightful owners. The Commission's first Secretary was a member of the French delegation to the IARA, Jacques Lanson, their offices being set up in Brussels in the Residence Palace at 155 Rue de la Loi *(right)*. Today the same street is host to the massive headquarters of the European Commission, the old Tripartite office now the capital's vehicle licensing office. The Commission sent questionnaires to the governments of those countries which had been overrun by Germany as a first step in the verification of claims for the restitution of gold backing currency missing from their central banks. While these responses were being rigorously checked against the records, the gold in the Frankfurt depository was transferred to the Bank of England in London for safekeeping.**

therefore.' Using a precedent from Article LIII of the Hague Regulation of 1907 ('if material is actually in use by the enemy forces or is helping its operations'), the Americans argued that material was liable to confiscation. 'The gold in question, whether or not we recognize that title was in the German state, was clearly being used in behalf of the German state. Accordingly, from a strictly legal point of view, apart from the policy considerations involved, the gold may be treated as war booty.'

Stalin had indicated at Potsdam that the Soviet Union did not intend to make any claims against the American discoveries. But it was not clear whether he intended to make claims against Austria, Hungary or any of the states that fell into the Soviet area of occupation. Late in the summer of 1945, General Clay, Deputy Military Governor of the American zone, was reported to have said that the gold would be used to purchase imported supplies for Germany, indicating some truth to a rumour that the United States intended to claim the gold as war booty. Since General Clay's statement directly contradicted the position of Colonel Bernstein, then director of the finance section of OMGUS (Office of Military Government, United States) in Berlin, who kept the US Treasury Department in Washington fully informed, once US policy shifted from harsh economic treatment of Germany to respond to reality after Potsdam, the American occupation forces charted a more lenient course of action.

The modifications in attitude toward the vanquished Germans coincided with the growing divide between the British and the Americans on the one side, and the Soviets on the other. Consequently, when the British proposed the formation of an Inter-Allied Reparation Agency (IARA) in September 1945, the questions about whether the Nazi treasures would be US war booty were once and for all stifled.

On January 14, 1946, the United States and 17 other governments signed an 'Agreement on Reparation from Germany, on the establishment of an Inter-Allied Reparation Agency and on the Restitution of Monetary Gold' which came into force on January 24. By Article 8 of Part 1 of the Agreement, a subordinate agency, the Inter-Government Committee on Refugees was allocated $25,000,000 in German monetary gold as the initial installment 'for the rehabilitation and resettlement of non-repatriable victims of German action. . . . The assets of victims of Nazi action who have since died and left no heirs' as well as non-monetary gold, jewelry and dental gold, gold found in church ornaments and tableware, silver wire, and precious stones were added in toto to the original $25,000,000. In accordance with Paragraph H of Article 8, 'these funds would not be used for the compensation of individual victims, but for the rehabilitation and resettlement of persons eligible' as specified in the agreement. This arrangement established in principle that since the overwhelming majority of eligible refugees were Jewish, the funds would be allocated for the rehabilitation and resettlement of Jewish victims of Nazi action. About 5 per cent of the fund, however, was set aside for non-Jewish victims.

On July 3, 1948, a series of shipments of the remaining assets together with the valuables returned from the war crimes trials began from the Frankfurt Exchange Depository via Pan American Airways to the Bank of England on behalf of the Inter-Governmental Committee on Refugees. The last shipment took place on August 3.

**In 1947, Michel Hirigoyen took over the executive position from M. Lanson to be replaced in turn by Colonel J. A. Watson in 1948. In 1953, the Commission moved offices to 50 Avenue des Arts *(left)*, now the Banesto Bank. While gold rightfully the property of governments in the West was fairly easy to resolve, that of countries behind the Iron Curtain was more difficult and, in some cases, the arguments have gone on right up to the present day. The Commission moved offices in 1964 to 9 Rue de la Science (today a notary office) *(right)*, the slimmed-down organisation leasing an office in the British Embassy, currently in Rue d'Arlon, in the early 1970s. Colin Harris was appointed Secretary General in January 1977, working indefatigably over the following 15 years to try to resolve the outstanding problems. One of the thorniest concerned Albania, probably the most hard-line entity in the Communist bloc. When Harris died in 1992 there was an interregnum until Emrys Davies, former Ambassador and High Commissioner in the British diplomatic service, took over as Secretary General in June 1995. At the time of writing (July 1996), he is the sole remaining member of the Tripartite Commission — itself virtually the last of the many organisations and agencies set up by the wartime Allies — and is very close to success. Agreement with Albania, anticipated within the next six months, will finally close a chapter which began over 50 years ago when an American combat unit stumbled across a treasure trove of unimaginable proportions.**

# AUSTRALIAN BEAUFORT CRASH

## By David M. Green

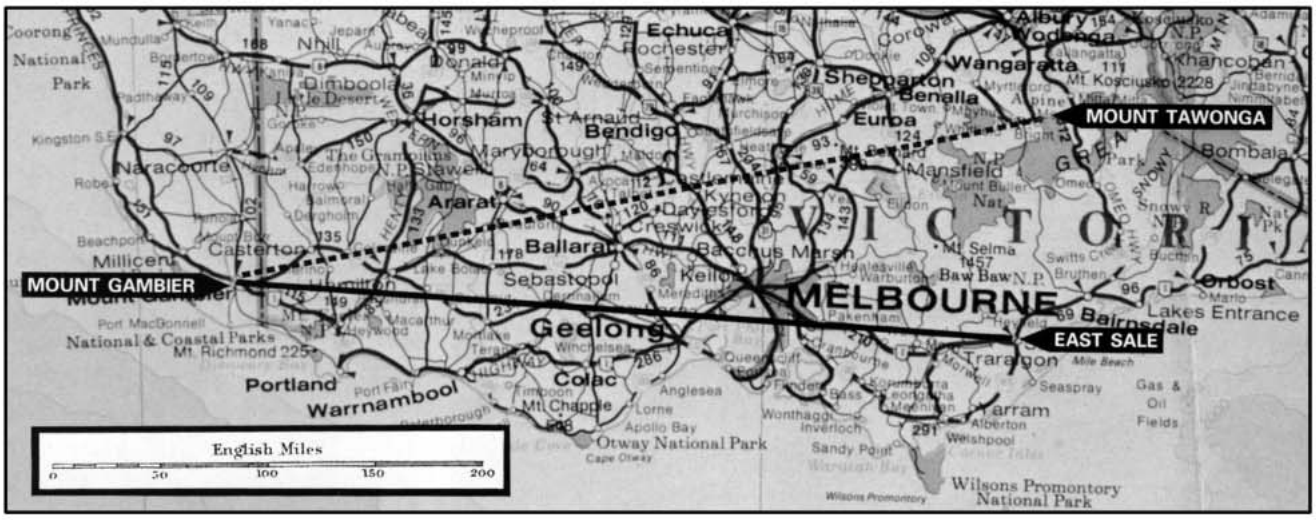
A 1935 RAF specification calling for an aircraft to supersede the Avro Anson initiated Bristol's design of the Type 152. Bearing many similarities to the earlier Blenheim, it was a twin-engined, multi-purpose aircraft with a crew of four. The prototype machine, serial number L4441, flew for the first time on October 15, 1938. With the Duke of Beaufort's permission, the RAF's new bomber was officially christened the Beaufort.

As the possibility of a war against Germany increased during the late 1930s, Britain began to look towards Australia and Canada as potential suppliers of military aircraft. Negotiations had commenced two months prior to the maiden flight of the Beaufort for it to be produced in Australia. The off-shore manufacture of the bomber would supply aircraft for both the RAF and the RAAF. The ambitious building programme was officially announced by Australian Prime Minister Joseph A. Lyons on March 23, 1939. It was estimated that 250 Beauforts would be built each year in Australia at an estimated cost of £30,000 per plane. An initial order for 180 bombers was placed in July 1939 with delivery forecast for 1942.

Australian production of the Beaufort was a widespread operation involving manufacturing plants in three states employing over 10,000 workers. New aircraft final assembly lines were built in Victoria and New South Wales and over 600 firms were involved in component manufacture and sub-assembly. The original plan involved the incorporation of British specialist assemblies such as flight instruments and gun turrets into the Australian airframes, but the European war situation was such that all exports of war materials from England were curtailed in May 1940. This further complicated the manufacturing process and led to certain raw materials and equipment being obtained from the United States. It was also necessary to introduce some 2,000 local design modifications before the first aircraft rolled off the Australian assembly lines. In retrospect it was a quantum leap forward for the embryonic Australian aircraft industry; the Beaufort building programme has since been hailed as one of Australia's greatest industrial achievements.

The fall of Singapore in February 1942 and the Japanese threat to Australia prompted the RAF Beaufort delivery agreement to be cancelled with all subsequent aircraft transferred directly into Australian service. Royal Australian Air Force Beauforts first saw action on June 25, 1942, when the newly-formed No. 100 Squadron attacked Japanese shipping off Lae in New Guinea. A versatile torpedo/bomber/reconnaissance aircraft, the Beaufort became the RAAF workhorse of the Pacific War, equipping ten operational squadrons together with assorted training and supply units. Although relatively obsolete when first introduced, Beauforts served with numerous battle honours throughout the south-west Pacific. Its contribution in this region to the defeat of Japan has been described as being 'of greater significance than any other single aircraft type'.

*Top:* **One of the 642 Beauforts built in Australia. The first flew on August 22, 1941 and was handed over to the Royal Australian Air Force on September 3; this is the last, pictured symbolically over Sydney harbour on September 1, 1944.** *Above:* **The production programme broke fresh ground in Australia: 80 per cent of the workforce had no prior experience of aircraft production and 35 per cent were women although this photograph does not portray their involvement. David Green's story concerns just one particular Beaufort and a long-forgotten incident on the night of June 4, 1945. At that time, the war in the Pacific still had two months to run: victory on Okinawa (see *After the Battle* No. 43) was yet two weeks away and there were exactly six weeks to go before the first test of the atomic bomb (see *After the Battle* No. 41). (AWM)**




**Beaufort A9-228 took off from Mount Gambier airfield in South Australia for a night flight of 350 miles to East Sale aerodrome in the adjoining state of Victoria. The four-man crew consisted of Flying Officer Donald Flavel at the controls; Flying Officer Robert Clayton navigating; with Flying Officer Frederick Wallis and Flight Sergeant Sims acting as wireless operator/air gunners. The aircraft took off at 1733 hours just as it was almost dark (remember that the June flight was undertaken in the Australian winter). However, instead of taking up a heading of almost due east for the two-hour flight, the aircraft maintained a north-easterly course towards the mountains which rose to 4,000ft. Although various bearings were transmitted to the aircraft, it failed to turn onto the proper heading and instead the crew made the fatal mistake of descending, no doubt to try to fix their position. At 2015 hours, all radio contact ceased when the aircraft hit the side of Mount Tawonga.**

## THE CRASH OF BEAUFORT A9-228

On the night of June 4, 1945, three RAAF Beaufort aircraft took off from Mount Gambier airfield in South Australia for the night portion of Operation Training Exercise No. 6. This entailed a return flight to No. 1 Operational Training Unit at East Sale, Victoria. Navigation during the exercise was to be primarily by astronomical means but radio navigational facilities were available and especially highlighted during the pre-flight briefing. Seeking flight authorisation, the crew of Beaufort A9-228 were ordered to obtain meteorological reports and provide flight details to the Operations Room, a mandatory procedure not complied with and the first in a succession of fatal errors.

A9-228 departed Mount Gambier at 1733K. The crew consisted of Flying Officer Donald A. Flavel, pilot and captain; Flying Officer Robert V. Clayton, navigator; Flying Officer Frederick A. Wallis, wireless operator/air gunner; and Flight Sergeant Lloyd J. Sims, wireless operator/air gunner. Recent training courses had found the crew to be of an average standard. Flavel's pilot ability was rated as 'average minus' with a total of 1,906 flying hours to his credit. The pilot and crew were considered physically fit with no evidence of fatigue noticed prior to taking off. No unserviceability of the aircraft or instruments was reported.

Although the intended altitude of the aircraft was uncertain, other crews in the exercise were obliged to climb to approximately 8,000 feet before clearing the cloud tops, A9-228 most probably doing likewise. After leaving Mount Gambier, a gross navigational error resulted in the Beaufort flying an easterly heading of about 70 degrees (true) instead of the required 95 degrees. Flight Officer Flavel continued along this track ignorant of any mistake, confirming by radio at 1906K that he was 28 miles from the town of Sale. In reality, the crew were completely unaware of their actual position, most likely mistaking the lights of the New South Wales town of Albury for those of Sale, several hundred miles away.

**Three days after the Beaufort had gone missing, this preliminary report was prepared and, almost before the ink was dry, a Court of Inquiry was convened, even though the aircraft and its crew had not yet been found.**

ROYAL AUSTRALIAN AIR FORCE — R.A.A.F. Form P.T.81 (Revised March 1944)

PRELIMINARY REPORT ~~(INTERNAL)~~ EXTERNAL OF FLYING ACCIDENT OR FORCED LANDING

Air Force Orders (10/D/2 & 18/E/1) — Serial No.: 809 — Period: 1944/45

| | | |
|---|---|---|
| (a) AIRCRAFT: | Type: | Beaufort |
| | Number: | A9-228 |
| (b) UNIT: | | 1 O.T.U. |
| (c) LOCALITY: | Place: | Unknown |
| | Date: | 4-6-45 |
| | Time: | night |
| (d) PILOT: | Rank: | F/O. |
| | Name: | D. A. Flavel |
| | Condition: | Missing |
| (e) CREW: | Rank: | F/O. R.V. Clayton ) |
| | Name: | F/O. F. A. Wallis ) Missing |
| | Condition: | F/Sgt. Sims L. J. ) |
| (f) NATURE OF ACCIDENT: | | Aircraft crashed on long range sea reconnaissance and night astro exercise. |
| (g) PROBABLE CAUSE: | | Unknown. |

Date 7-6-45

Copies for information to
C.A.S.
A.M.P.
A.M.E.M.
Secretary, AIR BOARD
D.R.M.
D.M.S.
D.T.S.
~~D.A.S.~~ D. F. S.
D.T.
D.S.D.
File ~~(D.A.S.)~~ (D. F. S.)
Historical Records
D.O.R.

MINISTER FOR AIR
D.P.S. (CAS. SECTION)

A Stewart Flt Lt
Fo DIRECTOR OF ~~TRAINING~~ FLYING SAFETY

MARBUT

**A five-day search of the suspected crash area proved fruitless and the Court had to close its case without the missing airmen being found. However, the relatives were far from satisfied and, two months later, a ground search of the mountainous area around Mount Tawonga was initiated, led by Lieutenant Richard Hamilton. Formerly of the 22nd Battalion of the Volunteer Defence Corps, Dick is pictured** *(left)* **in his home in Glenrowan, Victoria, with a piece of the wreckage and an original map used in the search. Gordon Seymour, who lived at the base of the mountain in the Kiewa Valley where the Beaufort had come down, had told the Court of Inquiry that 'at about 8.20 p.m. outside my house my attention was attracted by a flash of light appearing along the hilltops a little south of east from my house. The light rose into the sky, illuminating the clouds which were low on the hilltops. A few seconds later a column of brighter light flashed very high into the clouds: this light persisted a while, then gradually faded away. The light was visible for one to two minutes altogether and remained in the one spot, apparently behind the tops of the hills. I did not hear the noise of an aircraft or any unusual noise. If an aircraft had been in this part of the Kiewa Valley at the time I should certainly have heard it.'** *Right:* **Fifty years later, his son, Bevan Seymour, stands in the valley with the cross fashioned from the wreckage which was erected by the search party at the crash site.**

Failing to locate the East Sale RAAF aerodrome, Flavel retraced his path before once again flying over Albury. Unable to ascertain his position, he then flew over the surrounding countryside, contacting the East Sale high-frequency direction-finding station at 1928K for a navigational heading. A second bearing request was received by Flavel at 1954K. Failing to comply with instructions which would have enabled him to return to base, he flew an erratic path noted by several ground observers. Descending beneath the low cloud formations, the aircraft was noted at 2015K by the VAOC (Volunteer Air Observation Corps) observer at Tallandon to be flying just above a 1,500-foot ridge. The Beauforts' landing lights were clearly visible to those watching below as Flavel unknowingly flew in a south-westerly direction along the Mitta Valley towards Mount Tawonga (4,161 feet).

All radio contact with the bomber ceased after 2015K. Three minutes later, several local farmers witnessed the impact of the aircraft as it slammed into a remote hillside, briefly illuminating the wintry night sky. No explosion was heard due to the wooded country and its blanketing effect on sound.

An RAAF Court of Inquiry into the accident was convened on June 9, 1945, by Squadron Leader H. W. Wheeler of No. 2 Air Observers' School, Mount Gambier, and Flight Lieutenant B. S. Roberts of No. 1 Operational Training Unit, East Sale. The investigation found the cause of the accident was fundamentally due to faulty navigation on the part of pilot and crew.

Evidence suggested that the navigator had chosen to exclusively use astro-navigation without verifying the pilot's course, yet there were numerous wireless navigational aids for the other crew members to have utilised. Additional errors contributing to the disaster were the incorrect position reports broadcast from the aircraft during the flight. The failure to heed the correct navigational headings given by East Sale and the irregular course flown all contributed to the accident as did the low altitude flown by the lost aircraft. This was not only highly dangerous but it also hindered effective wireless operation. It was the opinion of the court that had A9-228 maintained sufficient height then the transmissions from the Operations Room at East Sale would have guided the pilot and crew home safely.

**The aircraft hit the northern side of Mount Tawonga (the name ironically means 'Flight through the air as of birds or spears') on the 3,200-foot contour line. Plan from the Court of Inquiry file.**

## THE SEARCH

Based on all available reports, a fruitless five-day search, involving Beaufort aircraft from East Sale and Tiger Moths from Benalla, began at 0700 the following morning. Ground searches were organised by experienced local horsemen and residents. Their participation was recognised by the court who noted that 'the ground search parties made commendable efforts to cover the country but admit that it would be possible to pass quite close to the scene of the accident without discovering it'. The Court of Inquiry concluded the location of the accident unknown, but most likely in the region of Mount Tawonga.

Eight weeks after the tragedy, a further search was organised through 'sheer desperation' by three relatives of Flying Officer Wallis. Eyewitness accounts had suggested the probable crash site to be on the north-eastern slopes of Mount Tawonga so, acting on RAAF aerial photographs, the men travelled to Eskdale where they contacted the local Volunteer Defense Corps (the Australian equivalent to the British Home Guard). The Commanding Officer, Acting-Lieutenant Frank 'Dick' Hamilton, together with Wallis' relatives and 30 VDC members located the missing aircraft after a 2½-hour search of the dense bushland. The bodies of the crew were retrieved and a simple cross fashioned from the wreckage left as a memorial.

**The bodies of the four airmen were retrieved from the mountainside and taken to the base of No. 1 OTU at East Sale airfield — the intended destination of the Beaufort. After a service in the camp chapel, the cortege proceeded to Sale War Cemetery** *(above)* **which had been established within the public cemetery on Maffra Road in Sale.** *Below:* **There they were laid to rest in Row D of Plot B, the graves (Nos. 5-8) being marked with wooden crosses** *(bottom left). Bottom right:* **After the war, the Commonwealth War Graves Commission landscaped the area into one of their permanent cemeteries, replacing the crosses with standard CWGC-pattern headstones.**

**In 1993, our intrepid Pacific battlefield explorer David Green decided to see what remained of A9-228 which had been built at Sydney's Mascot airport. The RAAF Inquiry in 1945 stated that 'the nature of the terrain renders air and ground searching difficult. It is extremely rough, mountainous country with very dense timber and accessible only to persons familiar with it.' After a 30-minute climb from the remote fire trail, David was surprised to find that a substantial amount of the aircraft still lay scattered on the mountainside. Evidence of the fire which broke out can be seen with metal solidified on several rock faces. Surprisingly, much of the original paintwork has survived after many years in the harsh climate.** *Above:* **A piece of wing (the metal for the skin for the Beauforts was imported from the USA) and** *(below left)* **the mid-upper section with the Bristol B.1 MkV dorsel turret missing which would have contained two .303 Browning machine guns.** *Below right:* **This Beaufort was a Mk VIII with Australian licence-built 14-cylinder Pratt & Whitney R1830 Twin Wasp engines.**

**When David returned to his Melbourne base he reflected on the fate of the four airmen. Just as the little-known training accident on a remote Victorian hillside was overshadowed in 1945, likewise David felt that with the national 50th anniversary commemorations of the end of the war in the limelight, once again events abroad would largely overshadow their sacrifice. 'We shall remember them', vowed David and he promptly set about raising interest in providing a permanent memorial on Mount Tawonga.** *Above:* **A specially inscribed plaque was dedicated on November 17, 1995.** *Below:* **A smaller party were then taken up the mountain in four-wheel-drive vehicles to a point where a new track had been cut through the bush to the crash site where the plaque was then fixed on a rocky outcrop.**

**50th ANNIVERSARY COMMEMORATION**

Australia celebrated the 50th anniversary of the end of war with tributes to those men and women who had served, suffered and fallen. With 50 years also passing since the crash of RAAF Beaufort A9-228 and this investigation, it seemed more than appropriate that a memorial should be erected to the four airmen.

The Victorian branch of the Australian Returned and Services League (RSL) was approached with the idea of placing a plaque on the actual crash site. With the suggestion adopted, relevant organisations were contacted about funding, and producing and installing the plaque. An official ceremony was organised by the Mount Beauty RSL Club (in the vicinity of Mount Tawonga) who contacted the armed forces, service organisations and local population to participate in the dedication of the memorial.

On November 17, 1995, a crowd of over 60 gathered near the base of Mount Tawonga for the memorial service. Unfortunately, no relatives of the airmen could be contacted for the service although several original members of the search parties which had located the missing aircraft were present. A special guest speaker was Air Commodore Keith Parsons (Rtd), who related his wartime memories of flying and the hazards involved. The commemorative service and unveiling of the plaque concluded with the Last Post and an aircraft flypast. The official party then travelled by army four-wheel-drive vehicle up Mount Tawonga to where a walking track now cuts through the bush to the crash site. With the plaque affixed to a suitable rocky outcrop, the Revd Stewart Eiseman, an ex-Beaufort bomber squadron member, led further prayers and a wreath-laying ceremony. Pieces of wreckage were placed beneath the memorial which is now officially recognised in Australian records as a sacred site.

**Australia remembers. Surrounded by members of the armed forces and veterans of the local Mount Beauty Returned Services League, David proudly stands beside the plaque — a fitting tribute to the four RAAF airmen. (He would like to dedicate this story to the memory of his father, John R. Green, who died during its compilation.)**

# THE ROYAL GUNPOWDER FACTORY EXPLOSIONS 1940

Gunpowder was used for the first time on the battlefield by the English at Crecy in 1346, but it was not produced in any great quantity for a further 200 years. Eventually, privately owned powder mills were set up in Britain, mainly in the south of England.

**By Bryn Elliott**

*Top:* **The devastating effect of 'gunpowder' — in this case a mixture of 6,000lbs of nitro-glycerine and gun-cotton — which accidentally detonated at the Royal Gunpowder Factory (RGPF) at Waltham Abbey, 14 miles north of London, in January 1940.** *Above:* **We pictured the exact spot in April 1996, the site of the explosion still clearly visible.**

**The RGPF — the 'mother-house of the British explosives industry' — with a colourful history extending back over 400 years, was closed in 1991. In April 1996, we obtained permission to investigate the various explosions which occurred there during the Second World War which cost the lives of ten men and led to the award of three George Crosses and three British Empire Medals. When we reached the site of No. 5 Mixing House (pictured *opposite*), at first glance there appeared little to be seen. It was the realisation that the line of concrete posts in the background still stood in exactly the same positions they had taken in the face of the blast in 1940 that provided the link between the two photographs.** *Above:* **Closer examination by our author, Bryn Elliott, revealed that although the services that the posts had originally carried at shoulder height were long gone, one small section of pipe still remained firmly embedded in its support.**

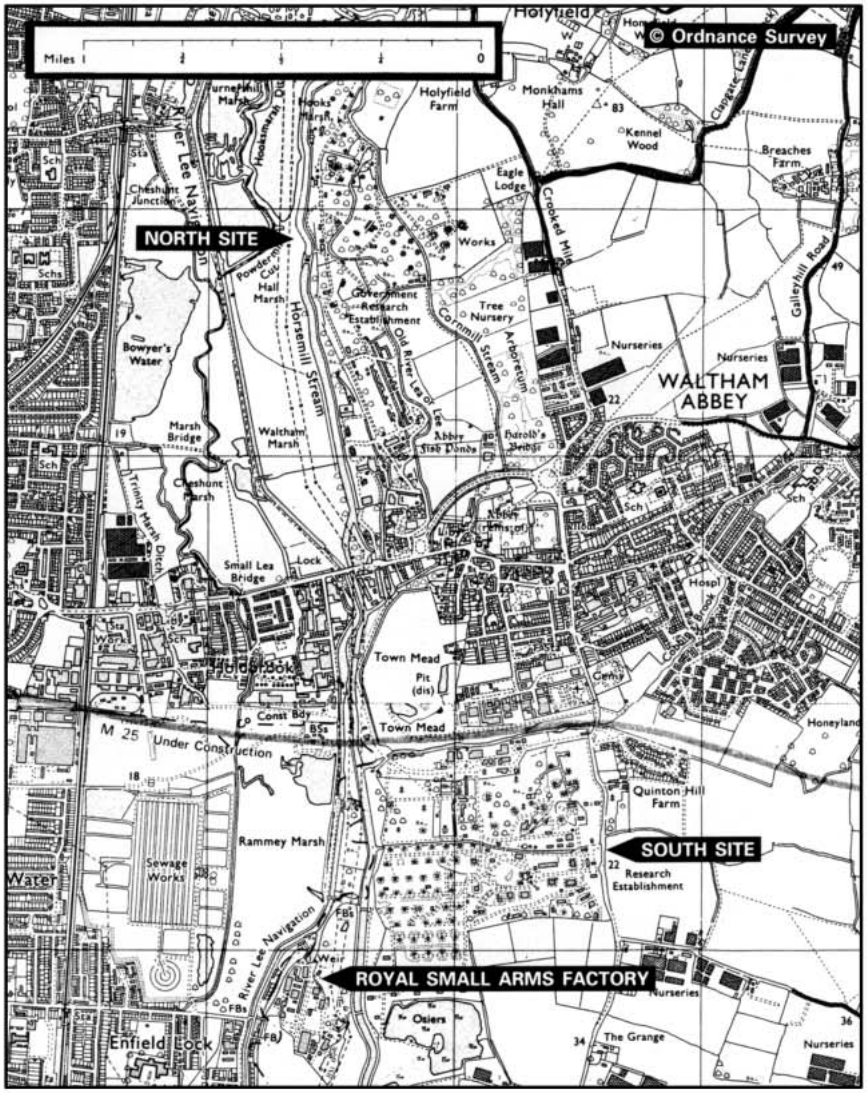
The mills at Waltham Abbey were established to the north of the town reputedly in 1560, so it may be presumed that the products of this ancient factory might have been available to the fleet of Sir Francis Drake before the last great attempt at invasion. The site was in private ownership before 1700, then passing into the hands of the government in October 1787 when it became the Royal Gunpowder Factory [RGPF]. The site, in West Essex and on the border of Hertfordshire, was well placed in the valley of the River Lee 14 miles north of London, and in the early days, the river provided the water for power and transportation.

Many questionable claims are made for the mills in Waltham, including the one that they were the source for the powder intended to blow up Parliament and the King at the hands of Guy Fawkes and his plotting compatriots, river access to Westminster certainly being easy from the factory. Less steeped in fable is the story that it was from this site that a form of artillery rocket was developed for use by British armies from the early 19th century. Known as the 'Congreve rocket', among the targets bombarded by these weapons was Fort McHenry in 1814, a fact commemorated in the line of the United States' national anthem which refers to 'the rockets red glare'. In Napoleonic times the factory was producing some 1,100 tons of powder per year for the war effort.

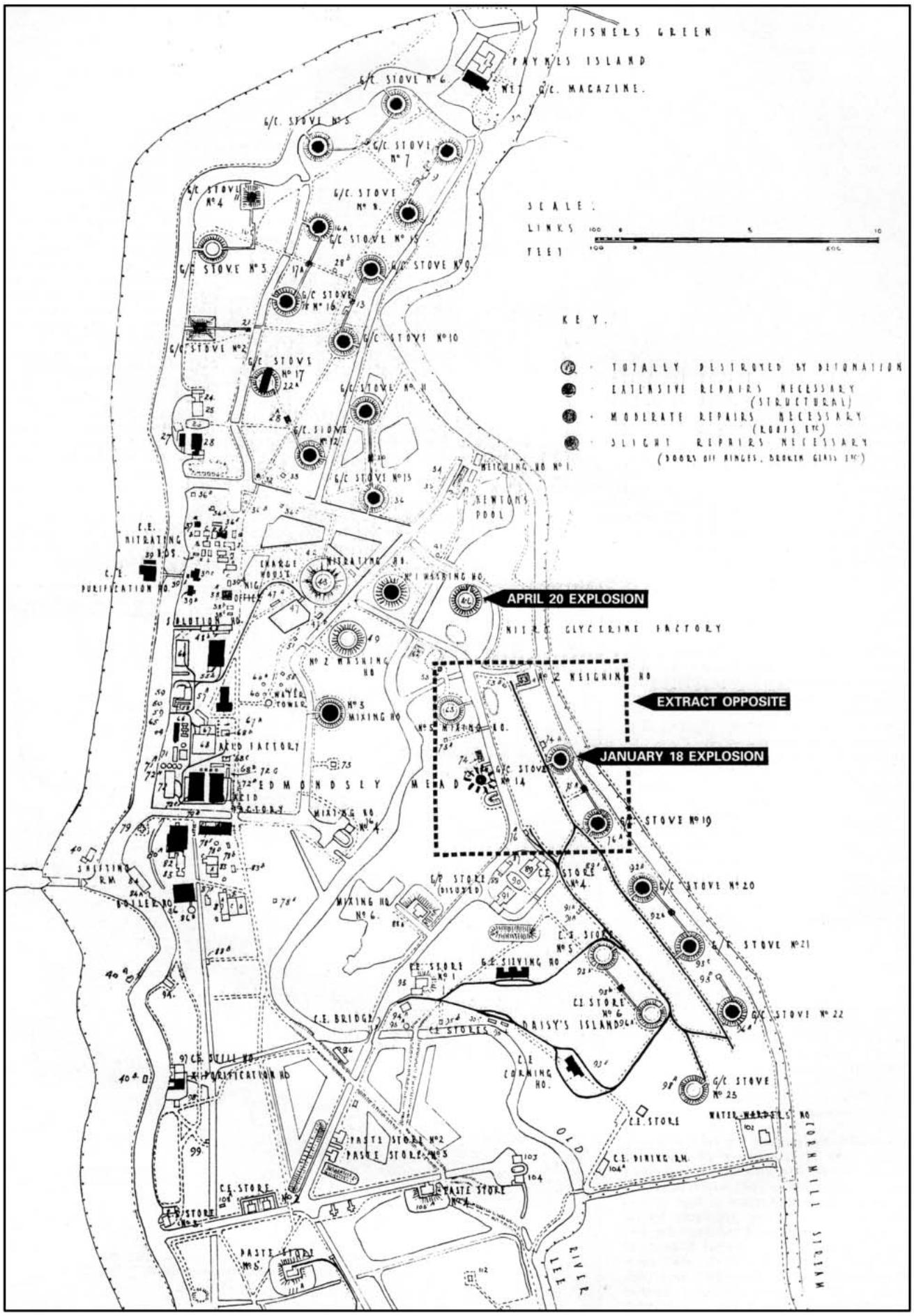
In the middle of the 19th century there was a diversification of effort as two new explosives, gun-cotton and nitro-glycerine, came on to the scene. By 1872, 250 tons of these were being produced and by 1885, the ever-increasing call for these products, as Britain enlarged and defended its Empire by force of arms, resulted in the factory expanding into farmland to the south of the town and building further nitro-glycerine production facilities. The development and production of cordite followed in 1891.

In the early part of the 1914-18 Great War, Waltham was the only government-owned explosive factory and, as such, the 5,000 employees were obliged to operate the processes around the clock to supply the major proportion of the Woolwich Arsenal's requirement to fill its shells. At the cessation of the 'war to end all wars', this production effort was run down, but experimentation continued and a number of important explosives were developed. The scaling down of the factory effort was reversed in the early 1930s with the rearmament programme, and on the outbreak of war, Waltham was producing TNT and was the only site producing the major explosive of this new war, RDX. In effect, through RDX production, it was from here that the Ruhr Dams were burst in 1943.

There were major problems caused by the inter-war shut down. Ever since the factory had opened, virtually all transportation had been by canal barge. Small dumb barges moved the materials around inside the site and delivered the finished product to larger sea-going sailing barges which were pulled down the Lee Navigation to the River Thames and Woolwich. However, following the end of the Great War, the canals had silted up, and instead reliance was placed




**The RGPF developed on two sites on either side of the town of Waltham Abbey, bordering the River Lee (also spelt on some maps Lea) which provided a convenient — and more or less safe — route for the factory products to be moved by barge downstream to the River Thames and the Royal Arsenal at Woolwich. When the M25 was constructed in 1975-86, the RGPF was provided with its own exclusive tunnel beneath the motorway. The Royal Small Arms Factory (see *After the Battle* No. 2) lay just to the south.**




**The explosions which are described in this article took place on North Site where nitro-glycerine was manufactured.**

upon the tramway and a small internal electric railway system. Although the railway connected with the main line from London to Cambridge, it was some months before the silt problem was overcome by a massive programme of dredging which left the railway at full stretch. In the meantime, much of the explosive went through the streets of Essex and London by road. Fortunately there were no accidents!

A greater threat was the lack of skilled manpower to operate the delicate processes within the factory. Although there was a core of trained process workers in the surrounding population, with the passage of some 20 years since the last contraction of the factory, there were insufficient of the right age group to fill the yawning need that war had created.

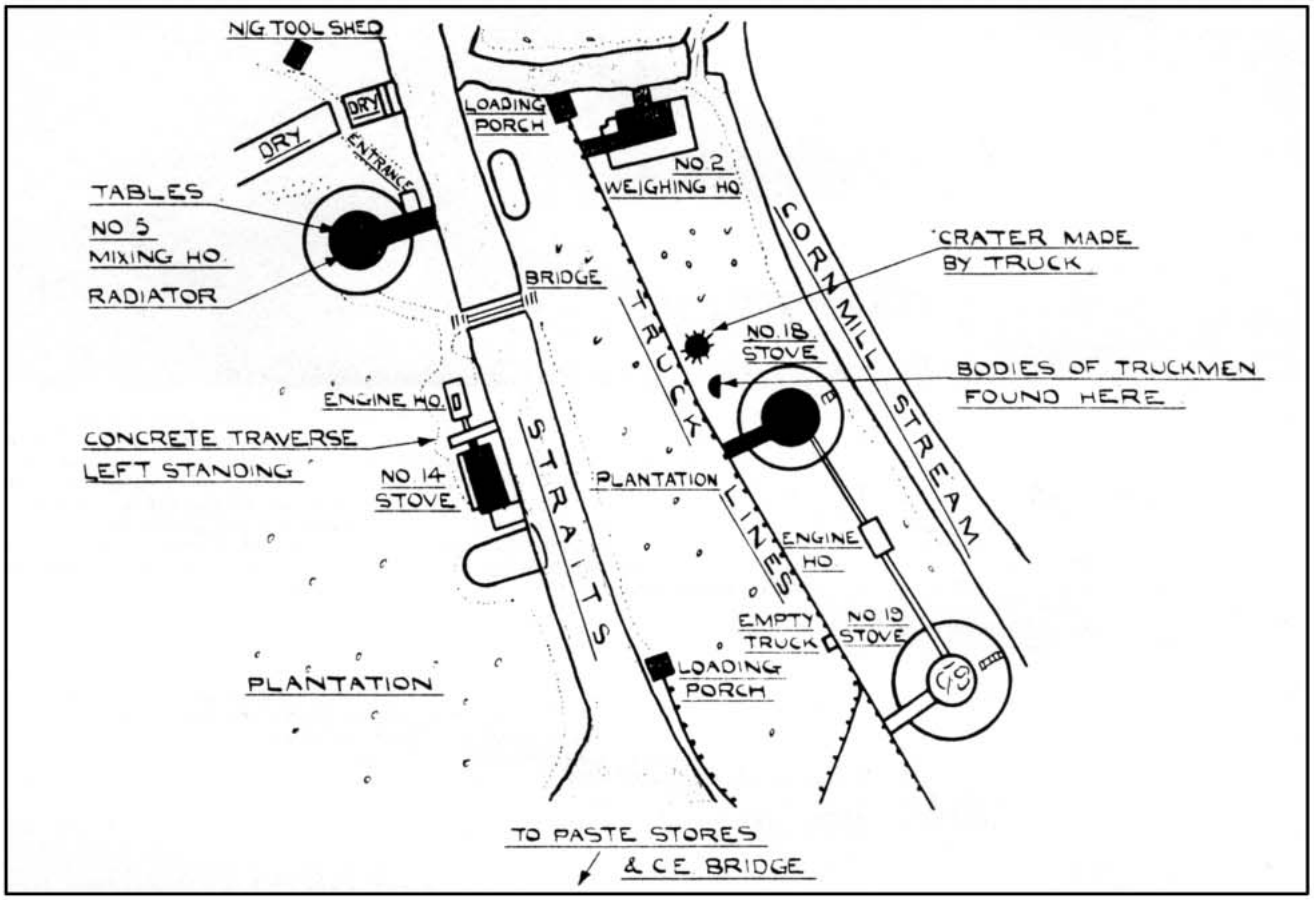
ine works, the railway was reduced to a hand-worked tramway with leather-lined carriages running on a spark-free wooden track.

By design, nitro-glycerine trickled from building to building along gutters or, in smaller quantities, was carried about in leather pails. The liquid travelled along a continuous lead gutter by gravity, the whole resembling an outsized domestic rainwater system, carried between buildings supported on substantial wooden trestles. The top of the gutter was open but covered and protected from the elements by a system of heavy canvas sheets.

To reduce the dangers of explosion from the tools used in the process, all metals were phosphor bronze or lead, and rooms were lined with wood, leather or lead. In some

perature of the rooms in which the work was undertaken was a critical factor. An extensive network of lagged steam pipes snaked through the site carrying a means of heating the individual process buildings from a central boiler room. Within the buildings, the heat was by means of a radiator. As most processes required a temperature of 70°F (21°C), the network of pipes was an important feature in winter. Standing instructions were that all work would cease if building temperatures fell below 50°F (10°C).

In spite of all these elaborate measures, there were regular deaths and horrific injuries effecting the workers. Every generation in the local town featured individuals stained yellow by sulphur from head to foot. Occasionally the accidents were horrific




**The plan of the North Site *opposite* was produced to illustrate the explosion on April 20, this enlargement being to cover the earlier accident on January 18. In both cases, they formed part of the Court of Inquiry findings as do the photographs. (PRO)**

This resulted in the creation of massive training programmes to integrate whatever workers could be found into a highly dangerous environment. Nevertheless, no matter how much training was given; no matter how long the worker was involved in producing the final product, there would always be accidents involving human error. The materials gave little leeway and any accidents invariably involved severe injury and death.

Precautions included a police force dedicated to rooting out all items of smoking apparatus. In peacetime, workers found with a few flakes of tobacco, a paper, match or pipe on their person, would face a criminal prosecution followed by instant dismissal. In time of war they *might* just escape with the imposition of a £5 fine — a week's wages. On site, the workers wore special protective clothing to reduce the chance of a stray spark, and ward off the chemicals involved in the processes. The hob-nailed boot was banned and stitched leather clogs and slippers were the order of the day. In the most dangerous areas, primarily the nitro-glycer-

cases virtually the whole floor of some buildings were lined with clearly defined interlocking sections of elephant hide and one such building survived into the 1990s. Thick leather buckets, fashioned from the same source, were the rule. By 1940, for newer items, there was a general move towards the substitution of rubber for the leather but with the superior longevity of the leather item, both materials were to be employed side by side for a further 50 years.

With a general resistance against the mechanical, all jobs employed tools long outdated. Wooden knives and gunmetal chisels were never to match their steel counterparts. An additional restriction was the paperwork. War or no war, almost every job required a multiplicity of signatures. Workers sat around for days, even weeks, awaiting the final signature on the job sheet, especially if someone as important as the Superintendent was away on other duties. This inertia affected every job in the danger areas of the factory — from dredging to manufacture.

In addition to all these measures, the tem-

enough to hit the headlines. Ten men died in April 1843, five in June 1870, two in August 1890, nine in December 1893, and three in December 1902. In most instances, the subsequent high-profile burials resulted in the creation of a mass grave for some or all of the unfortunates, this topped by a magnificent memorial.

If the worst should occur, a long history of trial and error learning had resulted in specialist construction methods that promised to ensure the least chance of a multiple explosion involving a number of buildings. Structures in the greatest danger of suffering an explosion, both process buildings and the magazines, were provided with lightly constructed roofs of weatherboard and felt or zinc, and walls of a similar light construction lined with zinc or cheaper calico. Beyond these, a substantial wall and protective banks were primarily designed to deflect blast skyward. Each of the buildings was designed to be placed sufficiently far away from its neighbour as to reduce the chances of a sympathetic explosion.

**The Mixing House was central to the production process for nitro-glycerine and these photographs illustrate Mixing House No. 3, the most south-westerly one on North Site (see plan page 36) photographed here in 1940 from the west bank of the 'cut'. The latter was part of a series of waterways which linked the various process buildings at the RGPF, each having its own landing stage or 'porch' like the one visible in the foreground. The actual process building was made of wood erected within a circular earth and concrete mound. Should an explosion occur, it was thereby hoped that the blast would be directed skywards to eliminate the chance of sympathetic detonation of the surrounding buildings.**

## THE PROCESS

The RGPF was not a factory dedicated to the production of one final product, involving a common production process. The series of explosions which ripped through the factory in the early part of 1940 involved only the nitro-glycerine section of the extensive plant, the very fact of the explosions clearly underlining that this was one of the more dangerous areas of production.

Nitro-glycerine was then produced in large lead vessels called nitrators by the action of sulphuric acid and nitric acid upon glycerine. The process was a very delicate one and very critical. Following the production of the nitro-glycerine itself, two further processes were undertaken. The first was pouring the liquid onto dry gun-cotton in rubber bags, and, secondly, the mixing of the dry gun-cotton and the nitro-glycerine by working it through a half-inch mesh sieve by hand into calico bags. Some of the Mixing House buildings incorporated both these operations in the same structure and others took in 'poured-on' supplies from other parts of the factory. In any case, the two stages of production were never carried out simultaneously and only three operatives were allowed to work in the building at the time.

Gun-cotton, was produced in the Gun-cotton Factory section of the RGPF and, as 'wet gun-cotton', was transported in aluminium boxes in compressed cylindrical form by lorry to the nitro site for drying. The 55-60-hour hot air drying process ended with the material being placed in bags and sent, via a Weighing House, to the Mixing Houses for the addition of the nitro and the subsequent mixing.

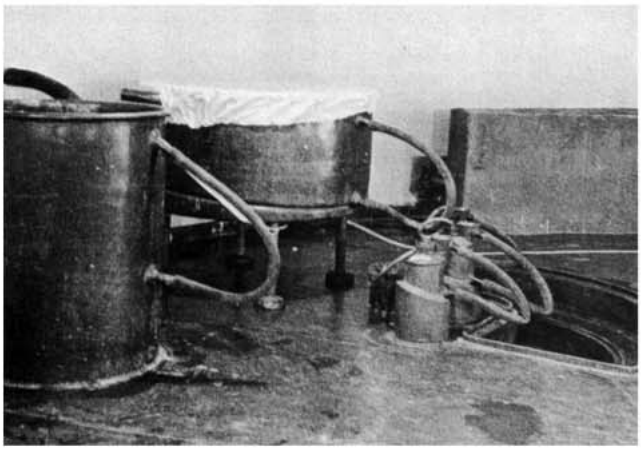
An initial portion, about 1,200lbs (enough for 65 bags) was run into a holding tank along the gutter from the previous building in the process, the Washing House, where the product was purified. As soon as the portion arrived in the process building, a special rubber hose shut off further supply to the nitro-glycerine tank. During its passage, the fluid would contaminate the lead gutter so, to retain the integrity of the fail safe system, one of the process workers, called a 'hill-man', then cleaned the gutter out starting from the Washing House.

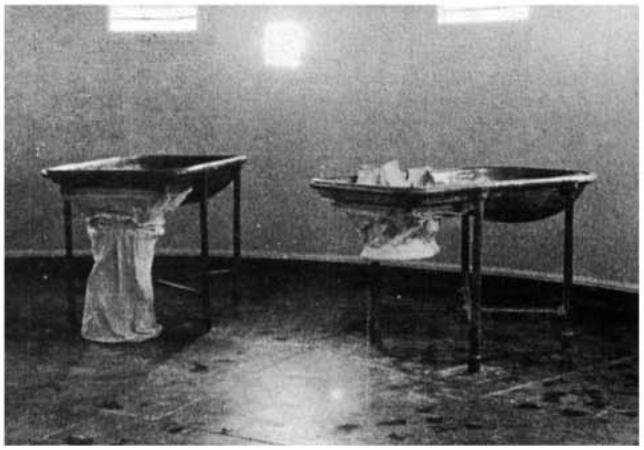
As soon as the nitro-glycerine arrived in the Mixing House, 2oz samples were put in lead bottles and placed out of harm's way under the tank. The bottles were some three inches high and weighed 10½ ozs when empty. Dry gun-cotton, contained in rubber bags, was then brought in from a Weighing House and a measured amount of nitro added. It was generally the duty of the chargeman to pour this on from one of a number of measuring vessels called burettes.

The bags were then either sent away in a barge to another building or put to one side until the initial operation was completed. The separate mixing operation consisted of emptying the contents of the rubber bags

**Like many of the former watercourses at the RGPF, the modern comparison shows the dry bed and remains of the crumbling bankside timbers. We timed our visit just before the foliage masked the view although, without a ladder, your Editor refrained from risking life and limb by climbing up the high blast wall from where the original was taken. The small white notice on the tree identifies this as Building 62.**

*Right:* **The interior of Mixing House No. 3 photographed from the porch showing the central pillar, the spark-free floor and lead tanks. The visible wall is the light inner structure. Nitro-glycerine, or Glyceryl Trinitrate (a mixture of glycerol, nitric and sulphuric acids) was first prepared by an Italian chemist, Ascanio Sobrero, in 1846 but the highly volatile nature of the liquid explosive was not brought under control until the Swedish scientist Alfred Nobel mixed it with absorbent inert materials in the 1860s. Nobel also discovered that nitro-glycerine could be combined with other explosives like gun-cotton to make it a more stable product. The production process seems remarkably crude by today's standards where the hazards have been greatly reduced by continuous processes. The liquid nitro entered the mixing house via the rubber tube in the far wall to be stored in the mixing tank beside the operative. Measured amounts would then be run off into 'burettes' which would be added to dry gun-cotton in rubber bags. The mixture would then either be taken by barge to another building to be mixed or, in the case of Mixing House No. 3, stored ready for the separate mixing operation.**





*Left:* **Close up of the burettes and the arrangement of rubber tube safety overflow pipes from them to the rubber bag on the stand. The 'well' was lead-lined.** *Right:* **The paste-mixing tables were fitted with a phosphor-bronze sieve onto which the contents of the bags were emptied. The material then had to be worked by hand through the mesh by operatives wearing long leather gloves, the resultant mix falling into bags which were then taken away for additional processing.**

**One serious problem with nitro-glycerine is its high freezing point 55°F (13°C) so that the maintenance of high room temperatures was critical. However, the transportation of the material in the open air by barge largely negated this precaution, particularly during the freezing conditions encountered during the winter of 1940. It was the hand-mixing process, on a table just like this, that was believed to have been the cause of the first explosion.**

onto paste-mixing tables made of lead supported by steel framework welded to the floor and then taking the material to the phosphor-bronze sieve and hand working it through to mix it thoroughly and deposit it into the hopper-mounted bag below. The operatives wore leather gloves for this operation. When this process was completed, a barge would call at the canal side entrance and take the material, now called mixed paste, away for further processing into the final product such as cordite.

At irregular intervals during the day, one of the hillmen would call at the process building to collect the sample bottles, place them in a special carrying box, and take them to the laboratory for quality control testing. The handover of the bottles, between the hillman and the chargeman, took place in the porch of the building. This procedure allowed each to retain his respective level of cleanliness. After the hillman had taken samples to the laboratory, he returned with other tested samples for their respective process buildings. This operation was not undertaken at night, lest the hillman trip and fall in the dark.

**The mixing house has been derelict since 1945 and the interior building long dismantled, hence we are now looking at the inside of the concrete blast mound. The lead-lined well is clearly visible, as is the opening in the back wall through which the nitro-glycerine entered the room. The porch provided the only pedestrian access.**

## THE FIRST EXPLOSION

The winter of 1939-40 in Britain has gone on record as being one of the severest ever experienced. This, coupled with the war itself, were to provide two variables with a major influence upon the events unfolding in the Lee Valley early in 1940.

At 10.42 a.m. on the freezing cold morning of Thursday, January 18, 1940, the seismograph in the observatory at Kew recorded a shudder in the earth. The whole of north-east London knew about it within seconds as windows caved in under the pressure, debris rained down, and a number of columns of smoke rose from the secret site north of the town. With the absence of an enemy raid, a series of explosions of that magnitude could only mean one thing. The violent explosions were reported as far away as 25 miles and a man living 90 miles away in the New Forest claimed to have felt the shock. By the time the staff at Kew became aware of the twitch in its recording, the five men directly involved in this minor seismic event were dead.

Albert Lawrence, Charles Perkis and John Parkes were working in the circular No. 5 Mixing House building in the nitro-glycerine section of the RGPF North Site pouring the product onto the gun-cotton when something — we shall never truly know what — went wrong. After the explosion of some 6,000lbs of nitro, gun-cotton and mixed paste, all that was left of No. 5 Mixing House was a pair of steaming craters. A shock wave reverberated across the factory and, in spite of a high protective mound — the tried and proven feature designed to deflect the blast safely upwards — the catastrophe was not confined just to the mixing house. The blast also travelled to the east through the canal-side loading bay gap, this shock wave striking a hand-worked paste wagon being pushed by two men northward from No. 20 Stove along the truck lines only 100 feet to the east. The wagon pushers, Bert Kelman and John Robinson, were lifted off the trackway, hurled to the ground and, suffering terrible injuries, both killed. It was Robinson's first day on the job.

The 8ft-long, leather-lined wagon toppled from the track and the 640lbs of dry gun-cotton packed in 16 bags within detonated.

*Above:* **Nothing remained of Mixing House No. 5 after it exploded at 10.42 a.m. on Thursday, January 18, 1940, save for two craters which quickly filled with water from the ruptured canal bank nearby. (Refer to plan on page 37.) Of the three men who were working inside, nothing was found save for a piece of one arm.** *Below:* **The view is opposite to that reproduced on page 34.**

*Below left:* **Bryn Elliott orientates himself to line up the Court of Inquiry photograph** *below right* **showing the spot where the paste wagon blew up. Being pushed along a rail line (visible on right) just 100 feet from the first explosion, it was struck by blast which detonated the 600lbs-odd of gun-cotton within it. In spite of the passage of 55 years, a slight crater still remains — the route of the former truck line now the beaten track on the right. This crosses a new roadway towards No. 18 Stove.**

*Left:* **Although this massive blast wall stood between No. 5 (about 250 feet away, out of the picture to the right) and No. 14 Stove, nevertheless the ton of gun-cotton in No. 14, which originally stood to the left of the wall, sympathetically detonated. However, although in direct line from the first blast, by some quirk the Engine House on the right still remained standing. The picture was taken looking due west from across the waterway.** *Right:* **For some reason, the upper section of the wall was later removed but the shuttering marks on the end clearly match up. The engine house has since been dismantled. In the foreground, the dry bed of the canal. The rough bridge on the left is a recent addition.**

Although further protected by a substantial concrete wall, Building No. 75 (No. 14 Stove), the next danger building to the south, added its 5,200lbs of dry gun-cotton to the cacophony. The contents of this building were only 17 hours into the lengthy cooling down period and were still unstable.

Assailed from a distance of around 250 feet by the explosion of No. 5, added to the subsequent blast of No. 14 Stove across the canal and the eruption of the wagon load less than 50 feet away, the explosion of Building No. 74A (No. 18 Stove), was perhaps understandable, even though the 5,200lbs of gun-cotton had been drying inside for 37 hours and represented the most stable explosive in the immediate area.

As some of the black, white and yellow smoke from the series of blasts cleared, other sources of fire threw further columns of acrid smoke into the sky, and Building No. 76A (No. 19 Stove) started to burn. In addition, a range of other factory buildings had already been wrecked by blast, four being totally destroyed and several put out of action.

In a newspaper report, one unnamed survivor stated that he had a narrow escape when blown over in the blast. Carrying a bag of gun-cotton in a shed close to the one in which the first explosion occurred, the blast threw him 20 yards, to land on his back — fortunately still holding the volatile bag clear of the ground. If the bag had struck the ground, the chances were that this building would also have blown up. As the occupants of this building picked themselves up and fled, the second explosion occurred. Disorientated, and fearing that they were heading towards further danger, they threw themselves to the ground as a third explosion rent the air and flames leapt some hundreds of feet into the sky. Under billowing clouds of smoke, debris of all shapes and sizes rained down.

Another witness quoted in the newspaper stated that nothing above the size of an inch remained of No. 5 Mixing House and that he had narrowly missed being struck by a 'one ton' lump of concrete travelling through the air at a disconcerting height.

**With the truck exploding less than 50 feet away, inevitably the contents of No. 18 Stove containing another ton of gun-cotton also blew up.** *Above:* **On a freezing day, the scene shows the shattered remains of the building looking east towards the line of mist-enveloped trees flanking the Crooked Mile from Waltham Abbey, north to Nazeing. The flat material in the base of the crater is the remains of the lead-lined floor. The broken trees are the only indication of the line of the Cornmill Stream hidden behind the rim of the crater.**

*Right:* **We took the comparison a little further back to show some of the concrete remains today. Many new trees and a new bridge over the Cornmill Stream obscure part of the view, but on this clearer, warmer, day, the rising land beside the distant roadway is no longer shrouded in mist.**

**Just 200 feet to the south of No. 18 lay the old dry Stove No. 19. The wooden structure caught fire, this picture giving a good illustration of the method of constructing the inner building inside the protective mound. The view is looking west across the truck line, towards No. 14 Stove and the Engine House.**

While a number of the workers in the factory understandably ran from the area of the explosion, there were no reports of outright panic, and many brave hearts stood firm and completed their delicate and dangerous tasks. Thereby many buildings survived that might have themselves blown up if abandoned.

Among the ongoing processes was that inside No. 2 Washing House 150 yards from the seat of the explosions. Two hillmen, William Sylvester, aged 25 years, and Leo O'Hagen, also 25, and Stanley Sewell, 33, a hillman trainee, were working on the most critical stage of the production process when the series of explosions occurred outside. The structure of the Washing House itself was little affected by the blast and the debris raining down outside, but the liquid in their charge remained particularly susceptible to shock and the men could still have left their posts for a safer place. The danger of the situation was heightened by the loss of the all-important heating system.

Sylvester maintained a watch over more than a ton of nitro-glycerine through its final purification process, while O'Hagen and Sewell stayed together overseeing the delicate process of bringing the nitro to a point of relative stability. To achieve this, all three men were obliged to stay at their posts for a further two hours. Subsequently, each was awarded what was then known as the Empire Gallantry Medal. (Later, when the George Cross was instituted in place of the EGM, they received the Cross in its stead.)

Rescuers and the factory fire brigade approached the disaster area and sought to take control of the situation, and by the end of the day most were to be stained with the tell-tale yellow of the chemicals. A swift roll-call in the nitro section confirmed the loss of five men and narrowed down the identities of those involved. Meanwhile, the factory was besieged by the fraught relatives of almost everyone on shift that day. Those outside the strongly-guarded gates did not have the luxury of roll-calls; all they could see and hear meant little except death, and with stringent wartime secrecy, most were not even aware which section of the factory their loved ones worked.

The shattered bodies of Kelman and Robinson were soon found half buried by debris some four yards from the 12-foot-wide crater, some 3ft deep, created by the explosion of the truck. It was the constituents of this settling debris that led to the conclusion that it had been the first explosion — that of the Mixing House — that had killed them, rather than the subsequent explosions. The bodies of these two unfortunates were subsequently examined by Dr Keith Simpson, the well-known pathologist, and found to have died from multiple injuries.

When the danger of further explosions had receded, many helpers, including officers from the town police station, were drafted in to search for human remains inside and outside the factory but only a few scraps of flesh and bone, later assessed to be sections of human arm, were found of the other casualties.

Even as the fires burned, an official Court of Inquiry to look into the disaster was being set up. Under Lieutenant-Colonel J. C. E. Pellereau, six members were assembled to decide upon the probable cause and sequence of the disaster.

Among the aspects to consider were:
(a) Sabotage.
(b) Faulty procedure.
(c) The presence of foreign matter in the mixture.
(d) The condition of the plant.
(e) Impure ingredients.
(f) Acceleration of output.

For some time before the explosion, there had been rumours of sabotage affecting a number of manufacturing centres. These rumours had been taken seriously and the police were tasked with investigating them but, in spite of the gravity of these suggestions, there seems to have been little active investigation affecting the Royal Gunpowder Factory. In theory, it was generally accepted that sabotage of an explosive works was relatively easy. This was not the classic instance of a saboteur introducing a bomb into the factory. The greatest danger to the plant lay in the deliberate introduction of impurities into the dangerous process. Fortunately, self-preservation by the process workers was already designed to screen out all impurities, whether deliberately or accidentally introduced, so it was thought that only poor levels of training and faulty procedures would allow such sabotage attempts to succeed.

That evening, an official communiqué was issued in Whitehall: 'The Minister of Supply greatly regrets that an explosion occurred this morning at a factory in North London. Five men were killed and a number of employees were injured. Fortunately most of the injuries were slight. An enquiry into the causes of the accident is being made.'

Although the majority of London knew the exact location by this time, the defensive note of the press release tried to hide the location from the enemy. In these couched terms, the BBC announced the event on the one o'clock news. Eventually, it apparently became clear that such a tactic was pointless and a further communiqué was issued shortly afterwards: 'The name of the factory where the explosion took place is the Royal Gunpowder Factory, Waltham Abbey.'

At 9 p.m., the BBC bulletin added the name of the factory in full.

**This particular picture turned out to make one of the best comparisons for the January blast with a section of the overhead heating pipe still lying where it was left when the burned-out remains of the building were cleared away. Quite how or why it remained there for over half a century is a mystery.**

**Another good comparison, although one which caused us a lot of head-scratching, was this one which we assumed was taken looking along a road towards one of the blasted buildings on North Site. The Court of Inquiry annotation stated that it showed the 'C.E. Magazine', fortunately also describing it as 'Building 89'. Although this did not appear on the associated drawing on page 37, reference to the plan produced for the Inquiry after the second large explosion on April 20 (page 36) did indicate its location.**

Commensurate with the size of the multiple explosions, there had been considerable damage to property off site. The most important local landmark, the parish church of St Lawrence, a vestige of the dissolution of the monasteries having a history going back almost 900 years, drew the greatest attention with the loss of five (plain-glass) clerestory windows completely blown out. Stained-glass windows at the east end of the building that were already boarded up as a precaution against air raids survived.

However, in terms of the scale of glass loss, the glazing of the church was small fry when compared with the acres of nursery glasshouses in the Lea valley shattered in the blast. On a lesser scale, Chaplins, wet and dried fish shop at 43 Sun Street, suffered a plate-glass window blown in and numerous tiles were scattered from roofs near the factory.

With the sheer force of the explosion, the Court of Inquiry had little remaining evidence to allow them to decide the root cause of the initial accident in No. 5 Mixing House, and the result could only be based upon supposition, no matter how well founded that may be. The loss of the two hillmen pushing the truck, the truck itself and the surrounding buildings, Nos. 14, 18 and 19 Gun-cotton Stove's were all known to be as a consequence of the initial blast.

The site was visited by the members of the Court of Inquiry the following day. No. 5 Mixing House was now just two large lakes, the nearby canal waters having seeped through. The location of the former No. 18 Gun-cotton Stove was now a 6-7-foot-deep circular depression with a diameter of 60 feet. Hemmed in by a concrete wall at the north end and an earth mound at its southern end, No. 14 Gun-cotton Stove had blown sideways across the canal and into the trees without creating a crater.

The inquiry quickly homed in on the two most likely causes: the lack of training and the prevailing freezing temperatures. Although it was a rare occurrence, it was widely known among the chemists and longer-serving process workers that a phenomenon known as frozen nitro-glycerine existed, indeed, it was one of the prime reasons for the cessation of work if temperatures fell below 10°C. Where it occurred, the freezing of the nitro created solid lumps which were difficult, and particularly dangerous, to force through the mixing grid. The problem was rare and one that most of the regular staff had never actually encountered. To many of the newer wartime workers it was just one of many things that they had been told about. The Court heard evidence from a wide range of witnesses, most being asked about the possibility of frozen nitro being introduced into the building although the majority discounted this line of explanation. Nevertheless, the Court was inclined towards the theory that it might be that an insufficiently trained worker could have failed to recognise the problem and tried to force a piece of frozen-hard nitro-glycerine through the grid with disastrous consequences. Both Purkis and Parkes might fit that scenario.

The Court heard that No. 5 Mixing House did not undertake its own pouring-on process. Instead, it was one of the buildings which took delivery of the bags by small canal barge and then sent off its mixed product before setting to mix more. It was realised that it might be possible that one or more of the poured-on bags could have frozen at some stage of the journey after leaving the warmth of the supply building, and that this had not defrosted before being worked on. It was found that 60 bags of material had been exchanged shortly before the explosion. The incoming bags had been prepared in No. 2 and No. 3 Pouring-on Houses. Robinson and Kelman loaded at No. 3 and took the boat to No. 2 where they handed the vessel over to Mr. Head before setting off to undertake the trucking duty which was to kill them a short while later. The severe weather had resulted in a need to break the surface ice, this extended the journey to the Mixing House to 25 minutes, which Head claimed was twice as long as normal. He arrived and unloaded just after 10 a.m., some 40 minutes prior to the explosions. Times were rarely more than guesses as factory time-pieces were rare and personal watches absent.

In the absence of precise timing, the question that the Court of Inquiry had to ask itself, but could not answer, was whether the poured-on mixture was outside the relative warmth of the process buildings long enough for a portion of it to freeze. More controversially, it was a question whether one of the less-trained operatives did in fact abuse the resultant frozen lump in trying to force it through the sieve. We will never know.

**However, when we reached what we believed was the same spot today we were faced with recent excavations for a canal. To us, this was a strange fate for a roadway but it was only then that the truth dawned upon us: the 'roadway' was not a road after all! Covered with dust and debris from the blasts, the surface of the water of the canal just appeared to take on the mantle of the solid. Much of the wood lining the edge of the canal bank has survived and, although cut down in height, the concrete traverse retains the impressions from the wooden shuttering that was used in its construction. The buildings in the background include a disused gunpowder store.**

*Left:* **No. 2 Weighing House after the first explosion looking south-west towards the Engine House alongside No. 14 Stove. Over to the right is the seat of the explosion.** *Right:* **The framework of the footbridge over the waterway still stands.**

In order that production could restart with the least delay, repairs to the damaged buildings were started immediately, a number of the structures being completely rebuilt.

The repairs were urgent, a factor which resulted in outside contractors being rushed onto the site with a minimum of delay. Among these additional workers were some from the Mowlem organisation. Long-term site workers used to their own safety equipment based on rubber, leather and gunmetal, were disconcerted at the sight of the burly outside workers smashing the scattered lumps of concrete with heavy steel sledge-hammers. Warnings from the old hands failed to result in these outsiders desisting.

Not long after their arrival there was the inevitable bang as steel met a particle of nitro-glycerine. No one was hurt, but the Mowlem men walked off site as a body and were never seen again.

## FURTHER ACCIDENTS

The following month the RGPF was shaken by another explosion. Fortunately, on this occasion on Thursday, February 22, no one died, but three men were taken to the hospital.

There was a link between this incident and the first explosion. One of the pouring-on buildings affected by the first explosion had been abandoned in such haste that one of the workers had failed to shut off the supply of nitro-glycerine before getting clear of the collapsing roof. The result of this was that the floor became covered in a sheet of frozen nitro.

After a great deal of searching, the authorities managed to find two volunteers who were willing to enter the building and remove the material. The sagging roof was shored up and secured with ropes and the pair entered with a steam jet to liquefy the frozen material and then toss sawdust over it, prior to bagging up the mixture and removing it.

These now waste explosives were being burned on an area off to the west near the Powdermill Cut termed 'the burning ground'. This was not far from the area in which the five men were killed in January. The principle behind the process was that the waste material was spread on the ground and when ignited, like most explosives in an uncompressed state, they simply burned fiercely and went up in smoke. Occasionally, and this is what appears to have occurred in this instance, the flames ignited a pocket of powder which had slipped down a small fissure in the ground. This, being effectively contained by the fissure, exploded. Although the area was shaken by the blast there was no damage to private property and the injuries caused were minor.

**Having just been rebuilt, No. 2 Weighing House (Building 53A) was wrecked again in April so that the modern replacement** *(left)*, **considerably enlarged and bearing a different building number (S27), bears little resemblance to the original. The footbridge is hidden in the trees.** *Right:* **An unexpected discovery in the nearby undergrowth was the remains of the old nitro-glycerine 'gutters' by which the explosive ran by gravity between buildings. Long since deprived of its lead lining, this particular one had a felt-covered wooden lid rather than the more usual canvas cover. It may be significant that this trough appears to have led towards the site of the ill-fated No. 5 Mixing House.**

*Left:* **The reliance on gravity for distributing the nitro is well shown in this photograph showing the gutter snaking down from the mound of No. 2 Washing House and over the cut beside the blasted Washwater Settling House. It was in No. 2 Washing House that three men, William Sylvester, Leo O'Hagen and Stanley Sewell, were working on the most critical stage of the whole process: the nitration of the glycerine when the risk of a spontaneous explosion is greatest. Not only was the material then specially sensitive to shock or vibration, but the hot water and air service necessary to maintain the temperature of 70 degrees on that cold January morning had been put out of action by the explosions elsewhere on the site. The three men stayed at their post to monitor more than a ton of nitro-glycerine going through its final purification process, their courage and devotion to duty being acknowledged by the award of the Empire Gallantry Medal — replaced later by the George Cross when the new highest award for civilian gallantry was instituted in September 1940. (Mr O'Hagan died in 1968, Stanley Sewell the following year, and William Sylvester in March 1996 during the research for this feature.)** *Right:* **Were it not for the sharp eyes of Ray Sears, a local historian who accompanied us on our expedition to the RGPF, we might never have pinpointed the spot and thus have appreciated the importance of the picture. The spring growth was beginning to shroud the view of the mound around No. 2 Washing House when Ray spotted a building number sign hidden in the nettles. Much of the support structure for the nitro-glycerine gutters remains, in spite of being abandoned since the end of the war.**

Two of the less injured were a couple of workers from the Building Works Department, Bob Boswell and Cyril Eagles. Cyril had been well out of the way at the time of the first explosion setting up sandbags at the Sandhurst Hospital in the RGPF. This pair were tasked with dismantling the wooden scaffolding from the previously damaged Acid Factory. They had all but finished when the bang went off and threw them sideways. The corrugated iron acting as a black-out measure to mask the glow from the retorts was ripped off and showered down on them. The scaffolding had to be re-erected to undertake yet more repairs.

As if this incident on the burning ground was not embarrassment enough, on Monday, April 8, another accident at the factory killed one of the workers. Although there was no explosion this time, nonetheless Nathaniel Evans, aged 32, of Enfield, was fatally injured by extensive acid burns and died in hospital.

With these albeit minor incidents weighing heavily, and the shooting war having started for real on the Continent, there is little doubt that when in mid-April another massive explosion ripped through the RGPF some of the workforce were gripped by a state of despair.

**As for the casualties, the few pathetic fragments of Albert Lawrence, of Albury Road, Enfield Wash, married with four children; John Parkes of Charlton Road, Edmonton; and Charles Perkis of Forest View Road, Walthamstow, both married with one child, were buried in one coffin in Waltham Abbey New Cemetery in Sewardstone Road (see page 49).** *Centre:* **Ray and Bryn stand at the spot where the two truckmen were found buried under debris. Both bodies were so badly shattered that recognition was impossible but the inquest held at Walthamstow on January 22 accepted identification from identity discs. Albert Kelman, married with three children and living in Brecon Road, Ponders End, was laid to rest in Grave 7337CON in Enfield Highway Cemetery** *(left)*, **and John Robinson, of Bowood Road, Enfield, also married with three children, in Square N6** *(right)* **in Abney Park Cemetery, Stoke Newington, now an overgrown nature reserve.**

## ANOTHER FIVE DIE

The second major disaster in 1940 occurred within the North Site nitro-glycerine section at 9.14 a.m. on Saturday, April 20. The seat of this explosion was No. 2 Paste Mixing House, a structure sited immediately to the north of the earlier blast. This was one of the buildings which had been completely rebuilt as a result of the damage, and was of similar design and use to that involved in triggering the series of blasts in January, all the major features of the original design being reproduced in the rebuild.

Again five men were killed, a further 15 being injured, six severely. The building was totally destroyed as were the bodies of the three occupants within, the only remains found being a section of skull. Those of two other men were found floating in one of the aqueducts.

Whilst a number of other structures were affected by the blast, on this occasion there were no further explosions or fires. The flimsy design of the building and the strength of the surrounding mound worked exactly in the manner designed and few other buildings suffered severe damage. One reason behind this was the smaller amount of explosive involved as it was estimated that No. 2 Mixing House had contained a total of 3,800lbs of nitro-glycerine and gun-cotton of which 1,260lbs was nitro.

Whereas the January explosion had damaged up to 20 buildings badly enough to require rebuilding, this time — other than the site of the blast — only five were damaged. In both explosions, Building No. 45, (No. 1 Washing House) and Building No. 53A, (No. 2 Weighing House), received such damage as to require a complete rebuild.

To the workers within the factory, the danger of sympathetic detonations in neighbouring buildings remained. The greatest risk was to No. 1 Washing House, across a canal and 55 yards to the east, where three hillmen were working. The chargeman, Hugh Burns, with Edward Sollis and W. T. J. West were inside the Washing House with a ton of nitro only half way through its production process when the roof came in on them. Burns was injured in the collapse but worked himself free and remained with the other pair to see the nitro-glycerine carried through until it had reached a safer state of purification. For their devotion to duty, all three hillmen were awarded the British Empire Medal.

Cyril Eagles had again been out of the way of the blast, this time walking along Long Walk to the west. He recalled that a number of others who might have been expected to be closer to the explosion had fortunately sloped off for their half-hour morning meal break a little earlier than scheduled. Their injuries were less in the line of duty. The wooden canteen building this group had been in was lifted up off its disintegrating brick foundations and crashed down with such effect that a number were scalded by the spilling mugs of tea!

Later the same day, another Court of Inquiry was set up, again under the leadership of Lieutenant-Colonel Pellereau. The investigating group visited the scene but, like in the January incident, the strength of the explosion left them with little tangible evidence to determine the root cause of the accident. The rebuild of the Mixing House was examined lest it have a bearing but no fault could be found in its construction so they looked elsewhere.

Although the proceedings for the first explosion had taken place both speedily and in the full glare of publicity, understandably with the war now having started with a vengeance on the near Continent, the latest incident was played down and the newspapers were not allowed to publish the true location of the blast until after the inquest almost two months later. To all but the locals, the site of the loud bang that had reverberated across the capital remained 'North London'.

As before, one of the first causes suspected was sabotage and the question was raised as to whether the police at Scotland Yard should be consulted but this potential reason for the disaster was quickly ruled out. However, although the deliberations of the Court may have satisfied them that there was no question of sabotage, the press, muted though it was by censorship, raised the spectre of a Fifth Columnist in the midst and, at one stage, the 'suspicious' movements of a specific workman were highlighted. The result of this diversion of effort was that Scotland Yard was eventually brought in and Detective Inspector John Scurr, stationed with the Metropolitan Police J Division at their headquarters in Hackney, gave evidence to the proceedings on April 26. Predictably, he cleared the man and was unable to provide a renewed link to the sabotage theory.

Whilst the blast took place in the same general area of the production facilities, on this occasion it appeared that the cause might be a little different in that the weather was warmer and it appeared to involve the deaths of hillmen with a relatively long history of service. So, there remained a hope that there might be a reason, other than a lack of training leading to human error, for this accident.

*Top:* **Three months later, another devastating explosion rent the air at Waltham Abbey. This time it was No. 2 Mixing House (Building 46) which went skywards but the protective mound largely confined the blast. Looking north-west from the porch, we see the Washwater Settling House in the background. Although it appears intact, in fact it was only the roof that remained.** *Above:* **The original report stated that after being wrecked twice in a year, No. 2 Mixing House was to be abandoned and rebuilt on a different site to the north beside Newton's Pool. Our comparison shows that clearly someone changed their mind about the re-use of the old site.**

**At the time, three men were working in the building: Francis Keene, David Lewis and Thomas Galvin. This time there could be no suggestion that frozen nitro was the cause as the temperature was almost 70 degrees (21°C) so the Court of Inquiry had to look elsewhere for an explanation. It was the discovery of a piece of skull near fragments of a sample bottle carrier that led the Court to believe that the chargehand, Francis Keene, might have dropped one of the bottles on the porch so setting off a chain-reaction with the 1½ tons of explosive inside the building. It was believed that the sample carrier had just been delivered to the Mixing House as the bodies of the two men on the delivery round — Harry Monk and Leslie Raby — were found blown into the nearby watercourse.**

Francis Keene, aged 26 years, was the chargehand inside the building. With him were a 36-year-old Welshman, David Lewis, and Thomas Galvin, a 41-year-old married man. All three had worked in the factory since before the war, the latter pair for three and four and a half years respectively. Keene had only taken the post of chargeman a week before the blast, replacing the usual man who was on leave but from the evidence given to the Court, it was clear that Keene was an utterly reliable worker, it being this reliability that led to him being given the post in the first place.

The two bodies recovered from the water, a feature variously referred to by witnesses as the aqueduct or 'the cut', were of local Waltham Abbey hillmen, Norman Henry 'Harry' Monk, a fully-trained hillman, and Leslie Raby, a hillman learner. They were both aged 27. Both were employed in support of the local Mixing Houses so it was initially assumed that they had the misfortune to have been passing the building at the wrong moment when they were blasted into the water which ran only 18 yards from the Mixing House.

An overriding worry was the continued lack of experience exhibited by the majority of the workmen. The Superintendent, Mr P. G. Knapman, was quoted as telling Court that 'our labour at the moment is appalling'. His disquiet was further reinforced by comments from one of the shop stewards who made a statement with regard to allegations of accelerated output, the suggestion being that the process workers were being pressured into ever greater levels of production. However, the Court took the opinion that as there was evidence that the rate of work had not increased above 92 bags per shift, there could be little credence given to this aspect.

It was the finding of the remains of a sample carrier in the water near to the spot where Monk and Raby had been found that provided one of the major clues to the final outcome of the investigation. The position of other fragments of the sample bottle carrier and the small section of skull, ascertained to be from the body of Keene, were also deemed important clues. The bodies, the sample carrier and the section of skull all lay on the same side of the seat of the blast in No. 2 Mixing House — the nitro tank. Although some of the wooden fragments from the carrier had floated off downstream prior to recovery, there was never a logical explanation for the loss of 18 lead sample bottles as it might have been expected that a maximum of 12 would have been lost in the blast.

It was known that conditions in the building appeared to be normal. The area was seen to be clean and the internal temperature of the building had been recorded by Raby on an earlier visit as a comfortable 21°C. One of the witnesses, Mr Cuckow, the assistant foreman of the nitro-glycerine section, reported that he had visited the affected building only minutes before the incident. Although, in line with standing practice, he had not entered the building, he stated that all appeared normal and that he believed they had just completed pouring-on and that Keene was clearing up as Lewis and Galvin had started to mix. It was circumstantial evidence, but it might be expected that samples would be taken at this time. This, and the relative positions of the bodies and debris, suggested the possibility that the primary reason for the presence of Monk and Raby near to the Mixing House was not accidental after all.

It was suggested that Raby had gone to the Mixing House and left the sample carrier in the porch. Calling Keene, Raby had then walked out, clear of the building, and towards the cut to speak with Monk whilst awaiting the call to return and pick up the samples for testing. Unfortunately, neither man was far enough away from the building when it inexplicably blew up. Whilst considering that there was an equal possibility that gun-cotton dust on the floor might have been set off by having a bag dropped onto or dragged across it, the most likely cause appeared to be that Keene had dropped one of the sample bottles as he took them to the porch.

In their report, completed on May 20, the Court settled on blaming Keene for the accident and then sought to put recommendations for remedial action to stop such an accident occurring in the future. However, these ideas were so wide ranging that it was clear that there was little real idea of the true cause. It was suggested that the very need for sampling within the Mixing Houses should either be removed altogether or, alternatively, the keeping of sample bottles should be further restricted in number. The Court were also not happy with the use of the lead bottles as their opacity hid the extent of the contents. Foreign bodies in the mix were not wholly ruled out either, recommendations to further reduce the incidence of these also being made.

In addition, the report drew further attention to the design of the steam heating radiator, although it had been examined again and again as a source of potential problems. As a measure designed to improve the supervision of unskilled workers, it suggested that the buildings be entered when visited, although this measure would require a radical change in the rules governing the number of men allowed in the building at any one time. Further thought was also given to the building of a completely new nitro-glycerine section within the factory, which would remove the situation whereby the whole production capability was halted by the loss of a single building.

**The same view is today virtually unrecognisable due to subsequent rebuilding. In the background, beyond the re-instated mound, is the aqueduct alongside which Monk and Raby met their deaths. The new No. 2 Mixing House was rebuilt in 1941 off to the left as Building 46R. On the extreme right is the ornate sluice gate filling Newton's Pool where underwater experimentation took place.**

The inquest for the April incident did not take place until Friday, June 7, and it was reported in a fairly muted manner in the inside pages of *The Enfield Gazette and Observer* on the following Friday. In spite of censorship, the paper was allowed to print a quote from Mrs Keene given at the inquest that, prior to his death, her husband had complained to her that 'there was too much speeding up at the factory and there would be another explosion before long'. Giving evidence, she stated that her husband was distressed at the conditions created by the speeding up of the dangerous processes. Keene had been a shop steward for the nitro section and it was known that on two occasions he had brought this to the notice of the authorities without success.

William Lewis, the brother of David, had travelled from the family home in Wales to the inquest. He confirmed that David had expressed similar disquiet. Lewis had regularly given vent to his complaints about the pressure to produce more and yet more and, a few weeks before his death, he had been hauled up in front of the foreman. He achieved a move within the factory but, ultimately, it had failed to remove him from the danger. The Court of Inquiry had been told of a number of instances where three individuals had requested moves on various grounds but with 3,000 workers on site this was not considered significant. On the other hand, Mrs Maude Galvin did not support the allegations of speeding up from her own knowledge of her husband's work.

**The pathway where Monk and Raby were killed was photographed for the record. At this point, an aqueduct (on the left) is carried in an iron trough over the waterway running below it at right-angles.**

*Left:* **The iron of the one-time aqueduct (Bridge 20) is now smashed and no longer carries water although the canal which runs below still feeds Newton's Pool. However, from the relative levels, it is clear that the waterway beneath was not intended to be navigable.** *Right:* **The footpath can still be discerned.**

The two local men pulled from the water were buried in Waltham Abbey New Cemetery in Sewardstone Road. Norman Monk was buried in Plot 53A and Leslie Raby, only married a matter of months before his death, was laid to rest just one grave space away. Raby's parents, Alfred and Minnie, lived all their married lives in a house in Denny Avenue overlooking the cemetery. Devastated at their loss, they were also separated from their son in death, their own final resting place being in Section D right near the back of the house they once occupied.

**Bryn and Ray seek out the graves of Harry Monk (behind) and Leslie Raby (in the foreground) in the cemetery on Sewardstone Road. (Three of their colleagues who survived, Hugh Burns, Edward Sollis and W. T. J. West, were awarded the British Empire Medal for their devotion to duty.)**

Not far away, the scant remains of the other three men were buried in a single casket on Monday, June 10, in plots 123/124/137/138 of Section O. This spot was right alongside the communal grave of three of the employees who had been killed in the January explosion. However, unlike the deaths occurring in the Royal Gunpowder Factory in the Victorian era, no stone was ever placed to mark either grave, and it was not until *After the Battle* made its initial enquiries that all members of the long-serving cemetery staff were made aware that the area of grass over the graves was the final resting place for six men killed at the RGPF.

After this second explosion, there were renewed efforts to rebuild the damaged buildings. No. 2 Mixing House, already completely rebuilt after the January explosion, was resited a little way to the east on spare ground beside Newton's Pool, the underwater testing facility. Here it was hoped that the ill-fated No. 2 might be far enough away to survive a third disaster!

In the event, there were to be no more serious explosions at the Waltham Abbey factory. The site received its fair share of attention from the Luftwaffe in the ensuing Blitz and, being in the south-east close to London, was clearly placed in an awkward strategic position. It was long held that a well-placed stick of bombs would destroy not only the factory but, with collateral explosions, the whole of the surrounding town as well and, in time, production was moved to other sites, locations hopefully beyond the range of all but specific attacks. A number of incendiary bomb fires were started on the site, but never the big one.

In 1943, the site changed from its rôle of explosive production to that of an experimental station. At the end of the war, the old name of the Royal Gunpowder Factory passed into the history books and the first of a number of relatively short-lasting titles substituted, these name changes reflecting a changing rôle in the modern world. Finally, it undertook the task of rocket propellant testing. Whilst the amounts of explosive required were thus reduced dramatically, the contamination of the site was such that it was never again a safe place to work. Until the end, there were to be more small on-site explosions as continued disposal activities on the burning ground took the same dramatic turn that had occurred in February 1940. Fortunately, however, there were no further deaths.

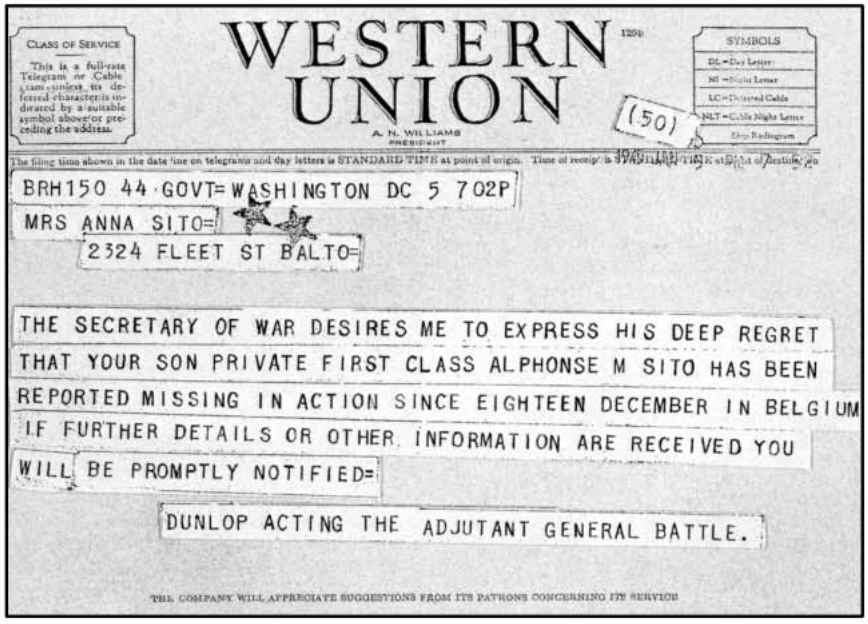
**Looking south, towards the M25 motorway overbridge on Sewardstone Road, no marker or memorial indicates the last resting place for six men. Only the well-tended area of grass between the block paving and the war graves marks the spot where the scant human remains were buried from the two major wartime disasters at the Royal Gunpowder Factory.**

Remaining a secret place to the end, it retained its position in the front line of development. At the time of the 1982 Falklands War, activities included the final testing of the engine for the British Aerospace Sea Skua air-launched anti-ship missile. Untried in battle and with these trials still incomplete, the military flew helicopters into the site, often during the dead of night, to take every test round available for onward transmission to the South Atlantic battleground. The Sea Skua undertook, and passed with flying colours, its final firing trials in the hands of the men off the Falklands. As if that were not all, much of the specialised explosive and other equipment required by the Special Forces was in such short supply that they too moved in and requisitioned all they could lay their hands on.

During the early 1980s, the government privatised and then sold off the sprawling South Site. Subsequently, after Royal Ordnance was sold to British Aerospace, the site was progressively closed. At the time it was thought that, in spite of the known contamination, the site could be quickly turned around and sold off as prime building land but the underlying contamination was found to be far more extensive and a speedy sell off was not to be.

Both sites of the former gunpowder factory were finally closed for all explosive-related activities on June 30, 1991. The 190 acres of North Site, where the 1940 explosions took place, remained in government hands as the Royal Armament Research & Development Establishment but plans were soon proposed to investigate the possibility of turning it into a museum telling the story of the explosive industry. The Ministry of Defence placed the site and its future form in the hands of agents, Civix Ltd., and a locally formed Trust Steering Committee, but at the time of writing (May 1996) its future remains in the balance and it is currently closed to public access.

**One of the many dry canal beds excavated in the decontamination process of the former RGPF. This is the one that encircled the site of the C.E. Store No. 4 and the disused Gunpowder Store. Should the proposed Gunpowder Museum project go ahead, it is envisaged that this and the other waterways would be filled with water once again and be plied by electric-powered replicas of the original canal boats.**



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THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

# THE 99th DIVISION 'MISSING IN ACTION' SEARCH TEAM

## By William C. C. Cavanagh

On December 19, 1945, Mr. and Mrs. John Sito of 2324 Fleet Street, Baltimore, Maryland, received a letter from Major General Edward F. Witsell, Acting Adjutant General, United States Army, concerning their son Alphonse, stating that 'as twelve months have now expired without the receipt of evidence to support a continued presumption of survival, the War Department must terminate such absence by a presumptive finding of death'.

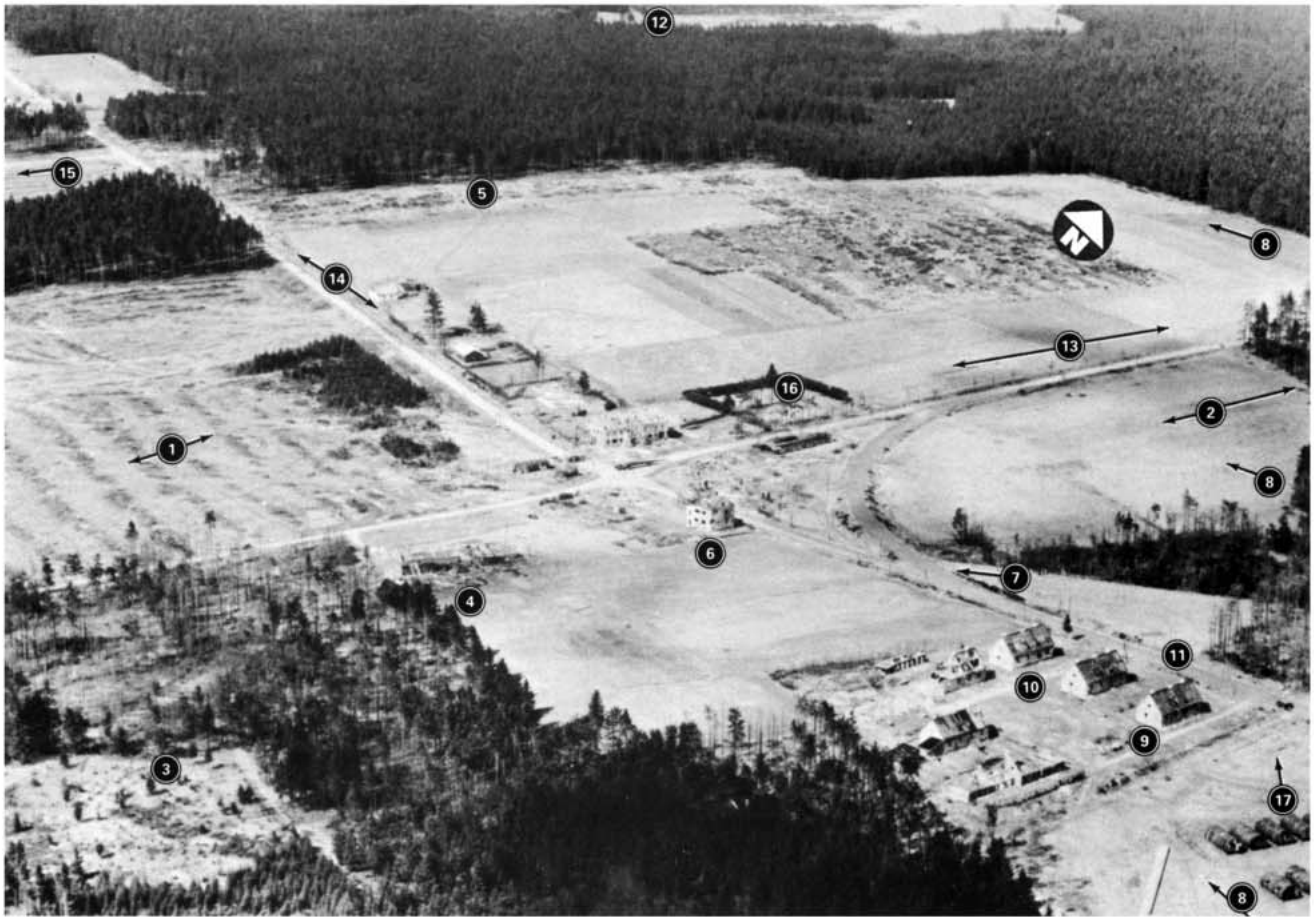
Regretting the necessity for this message, but trusting that the ending of a long period of uncertainty may give at least some small measure of consolation, officialdom closed this uncertainty by recording an official finding of death 'under the provisions of Public Law 490, 77th Congress, approved March 7, 1942, as amended'. Alphonse M. Sito had now joined the ranks of nearly 80,000 Americans listed officially as 'Missing in Action — Presumed Dead'.

Others, more fortunate, returned home to build new lives in the post-war prosperity of the United States, among them, men of the 99th Infantry Division, including Sergeant Richard H. Byers who had received a battlefield commission and came home as a 2nd lieutenant. With the passage of time, some things slipped from memory, yet like most of his buddies, 'Dick' Byers never forgot his momentous trip to Europe in World War II. Eventually becoming active in his divisional veterans' association, Byers formed the '99th MIA Search Team' enlisting the co-operation of William C. Warnock, Will Cavanagh, Jean-Phillipe Speder and Jean-Louis Seel, all of the post-war generation, yet deeply interested in those far-off days of the Second World War. They set out on the long and complicated task of seeing what could be done about locating, recovering and identifying some of the missing from the Battle of the Bulge and, more specifically, the 99th Infantry Division. Thus began the lengthy and time-consuming search for witnesses and documentation relating to cases such as that of Alphonse M. Sito.

At the western exit of the Losheim Gap, on the Belgo-German border stand the Losheimergraben crossroads, from where the main road, N632, leads west into Belgium. In November 1944, troops of the US 9th Infantry Division, who had nicknamed the crossroads area 'Creepy Corner', turned over their front-line rifle company positions to the incoming soldiers of 1st Battalion, 394th Infantry of the 99th Infantry Division under the command of Lieutenant Colonel Robert H. Douglas. As his men settled into their foxholes, Douglas remembers making 'a night reconnaissance for the location of defensive positions within our sector of responsibility'. Little did they know it, but he and the men of 'Danzig Red' (the unit codename) were to occupy a 'ringside seat' in Adolf Hitler's forthcoming attack through eastern Belgium and northern Luxembourg.

With their army being assigned the spearhead rôle in this attack, the planners of Oberstgruppenführer Sepp Dietrich's 6. Panzerarmee designated five attack routes, referred to as 'Rollbahn' A-E, in the zone of their 1. SS-Panzerkorps. Four of these routes (A-D) ran through the newly established 99th Division front lines. As the main hard-surfaced road leading into Belgium at Losheimergraben, 'Rollbahn C' became top priority in the list of Dietrich's objectives. Once the crossroads had been captured by the infantry, tanks of the 12. SS-Panzer-Division would pass through and start the advance. The scene was set for what noted historian Martin Blumenson would years later refer to as 'the climactic battle in the West'.

**Oberstleutnant Wilhelm Osterhold (left) and our author, Will Cavanagh, visit the Losheimergraben area to discuss the events of the winter of 1944. Osterhold's Grenadier-Regiment 48, and its running mate Fusilier-Regiment 27, paid dearly in their attack to capture Losheimergraben on December 16 and 17. A defending American sniper killed Major Klaus Breger, one of Osterhold's battalion commanders, and Major Siegfried Moldenhauer, commanding the 1. Bataillon was severely wounded when he and his men were shelled by their own supporting artillery in error. It was during the battle for the important crossroad junction that Pfc Alphonse Sito** *(top)* **was killed two days later, his body lying undiscovered for over 40 years.**




**The battle for the border crossing. The Losheimergraben crossroads lay on the frontier between Belgium and Germany, the houses at the bottom of this 1947 picture being former housing for German customs officers who used to man the post. The international highway [13] runs south to Lanzerath and north to Hollerath. The battle on December 16-17, 1944 was between the 1st Battalion, 394th Infantry, and Grenadier-Regiment 48. [1] Co.A/394 bivouac area. Trees felled after battle. [2] South flank of Co.B/394 area. Co.C beyond. [3] Co.D/394 mortars. [4] Co.D/394 command post. [5] Co.D/394 mortars' 2nd position. [6] Sergeants Hilliard and Trent's Co.C and Co.B platoons occupy house and fight from windows. [7] Co.B survivors emerge from draw followed by Volksgrenadiers. [8] General direction of attacks by Grenadier-Regiment 48. [9] House used by Cannon Co./394, 'A' Battery 371st Field Artillery Bn, and 'C' Battery 371st Field Artillery Bn forward observation parties prior to the attack. First House occupied by the Germans and from which Oberstleutnant Osterhold shouted surrender terms. [10] Houses occupied as fall-back fighting positions by Anti-Tank Co./394 and remnants of 1st Bn/394 before surrendering to Osterhold. [11] German Sturmgeschütz assault gun knocked out with bazooka from this house by Sergeants Weidner and Kirkbride. [12] Cannon Co./394 gun position. [14] Rollbahn C to Losheim (east) and Büllingen (west). [15] Road to Buchholz and 3rd Bn./394 area. [16] 'Buffalo Bill' bar. [17] Temporary German cemetery with some American bodies. (Hatlem Collection, US Army Military History Institute. Coding and key by R. H. Byers 'C' Battery/371 and 99th MIA Search Team.)**

Private Alphonse M. Sito, a native of Baltimore, Maryland, was born on November 16, 1924. He spent his 20th birthday, like his buddies, trying to keep warm in the damp cold forest dominating the western exit from the Losheim Gap and 'Rollbahn C'. Staff Sergeant George M. Ballinger was the machine gun section leader of the Weapons Platoon, Company B, 394th Infantry, in which Sito served as a machine gunner: 'Sito was one of the finest young men and one of the best soldiers that I had the pleasure of serving with. The section consisted of two squads, each of which had one .30 light machine gun, the gun in Sito's squad having been damaged a few days before the 'Bulge' began.'

Oberstleutnant Wilhelm Osterhold, at age 30, was the youngest regimental commander in the Wehrmacht in December 1944. A veteran of the Russian front, he had been awarded the prestigious Knight's Cross, (the Oak Leaves were added in February 1945) as well as three 'Tank Hunting' badges, awarded for his having knocked out three T-34 Russian tanks single-handedly at close quarters. He commanded Grenadier-Regiment 48 of Generalmajor Gerhard Engel's 12. Volksgrenadier-Division, the immediate objective of which was the capture of Losheimergraben as the point of departure for the westward drive along 'Rollbahn C'. In conversation with the author and Dick Byers, ex-Oberstleutnant Osterhold said of the preparations for the German attack against the 1st Battalion, 394th Infantry: 'I had no idea where the Americans were. We weren't told. We weren't even allowed to make some reconnaissance. We had to stay in Kronenburg until it was night, then we were told to attack in the direction of Losheimergraben. Nothing else. It was the worst preparation for an attack that I ever experienced!'

The first thunderclap of the massed German guns and 'Nebelwerfer' rocket launchers at 5.30 a.m. on December 16 was heard by the outposts of the 394th Infantry as 'outgoing mail', fire from friendly guns. Pfc Ralph Gamber, a member of the 2nd Mortar Squad, 4th Platoon of Company B, well remembers that opening barrage: 'Barrages of all calibers of mortars, artillery and multi-barrelled rocket projectors plastered the entire regimental front! Men who had served in North Africa, Sicily and Normandy later said it was the heaviest attack they ever experienced. It lasted with a few lulls until daylight. When a shell exploded very close it seemed as if my body was being compressed and my vision distorted as if my very eyes were being squeezed out! We had few casualties but our platoon leader, 2nd Lieutenant Charles E. Butler, was killed and several others wounded by a direct hit on their shelter.'

George Ballinger's machine gun section occupied foxholes on the extreme left of the Company B position: 'We were facing a ravine that extended from the road down to our position. I think it may have been five or six hundred yards or more. There was a long gap between Company B and Company C on our left. A few minutes after the shelling had stopped the Germans, who had moved up quite close, began yelling very loudly and in unison, probably to make us think there were more of them than there really were. When they stopped yelling it became very quiet and we wondered what they were going to do. Shortly, to our left front, a German scout appeared from behind a tree and looked in our direction for a full minute. We kept quiet and did not move. The scout went back behind the tree and we now thought they would attack for sure.

'It was a cold, damp, misty morning with heavy snow on the ground, there was absolute silence as we waited for the attack to come. It came, but not the way we expected. From behind the tree the scout had come, there came six German soldiers. They were walking very slowly toward us in the

**Jean-Louis Seel and Jean-Phillipe Speder, the two young Belgians who discovered Sito's remains. This photograph was taken shortly after the recovery in September 1988. Seel and Speder are members of the 99th MIA Search Team and have since repeated a similar operation in November 1990, when they located remains later identified as those of 2nd Lieutenant L. O. Holloway also from the 99th Infantry Division, just south of Rollbahn A on the west bank of the Olefbach. They did so with the approval of the local authorities, since combing battlefields in search of matérial from the war is now forbidden under Belgian law. Lieutenant Holloway's remains were returned to the United States, repatriation being the right of the next of kin of American servicemen killed abroad.**

exact center of the field of fire of the one machine gun we had.

'George Boggs was the gunner. He wanted to begin firing right away but I could see that there were others coming, so I told Boggs to wait until I told him to fire. Those in the rear caught up with the first six and they stood in a close group talking to each other. They seemed to be unaware of us. Finally, one of them placed a machine gun on the ground, they were 60 yards or less away, and one of them dropped to the ground behind the machine gun so I told Boggs to fire.

'He fired a long burst and all the Germans fell. That seemed to be the signal for everyone in the area to fire, for now the noise of the machine-gun and rifle fire was deafening. The Germans had taken cover in the ravine and were laying down heavy fire from there.

'Alphonse Sito who was to the right of our dugout was telling us that most of the German fire was coming from our right. Our machine gun was not positioned to fire that far right. There was a BAR (Browning Automatic Rifle) team filling in for the missing gun covering that area. After a while, Sito told us that the Germans had broken through and were getting behind us. Then he told us that the BAR team had been wiped out.'

Pfc Robert L. Muyres was the first scout in a rifle squad of Company B: 'When the Germans attacked, I was in a very shallow foxhole with the assistant squad leader, Staff Sergeant Ernest Davidson. When Sito was killed (a bullet in the forehead) I wasn't more than three to four metres away. When you see a lot of people killed it's hard to remember details but his death I remember, maybe because it was so quick — it was instant. Our foxhole was hit by a burst of machine-gun fire. Davidson was killed and I was hit slightly in the arm and severely in the upper leg, breaking it. Shortly after that, I was knocked unconscious by an explosion (probably a shell burst). When I regained consciousness, it was getting dark and I was bleeding slightly from the eyes, nose and ears. My left arm was bleeding a lot more and my leg hardly at all. Davidson's body was outside the hole and a German soldier was with me. He was very badly wounded in the chest and stomach and in bad shape.'

Those who survived the initial onslaught on Losheimergraben fought valiantly against the attacking Germans throughout the rest of that first day. Given the severity of the attacks against Company B, Captain Jim Graham of Company C sent two platoons south to reinforce the defence of the actual crossroads and ultimately, on the evening of the 16th, under two non-commissioned officers, Sergeants John C. Trent and John W. Hilliard, the 3rd Platoon moved into the basement of a house just east of the crossroads. There, they were joined by about 20 survivors from Company B who had escaped the vicious attack on their position that morning and had hidden in the forest until dark.

As the next day dawned, from the trees just east of the crossroads the enemy addressed the defenders in fluent English, using a megaphone: 'Attention soldiers of America. Please listen to me. You are cut off and there is no way to escape. Superior armoured units have surrounded all your regiments, you are alone and no one is left to break through and get you out. You have fought well and you have done more than your country could expect of you. We are aware of your desire to save lives and we value lives also; save your lives and surrender!' The speaker offered the defenders five minutes in which to surrender but all he got in reply were several volleys of rifle fire.

During the night of December 16/17, Obersturmbannführer Jochen Peiper's 1. SS-Panzer-Regiment (Kampfgruppe Peiper) succeeded in penetrating the American lines south of Losheimergraben and by the morning of the 17th had captured Büllingen, effectively cutting 'Rollbahn C' to the rear of Colonel Douglas' 1st Battalion. This, combined with the deteriorating situation elsewhere, obliged the Americans to begin withdrawing toward the Elsenborn Ridge, leaving a token defense in position at Losheimergraben.

The attacking Germans pounded the crossroads and surrounding area heavily after which they moved in with infantry for the 'coup de grace'.

Yelling and screaming grenadiers arose from the snow and attacked the position in strength. Those in the front were dressed in white snow camouflage suits as they came in from all directions. Machine-gun fire from the surrounding woods supported the attackers; bullets sprayed through the windows of the building defended by the men under Sergeants Trent and Hilliard. To Hilliard, the attackers looked young, clean-cut and strong — just like most of his men. Under the continued pounding of German artillery and mortars, one of the Company B men who had joined Trent and Hilliard's men, put the muzzle of his rifle under his chin and pulled the trigger with his last round of ammunition. This may have served to end his misery, but it made the rest of the men sick. A Bf 109 flew over the area strafing and bombing the crossroads. Trent and Hilliard's mixed band of men braced themselves for the worst as the Germans started their ultimate assault against the building. As the Germans threw concussion grenades through the windows, Hilliard lunged at a nearby German with his bayonet and the lights went out — someone had knocked him out with a rifle butt. Upon re-gaining consciousness, Hilliard was lifted to his feet by two Germans and taken to another building. Losheimergraben had fallen.

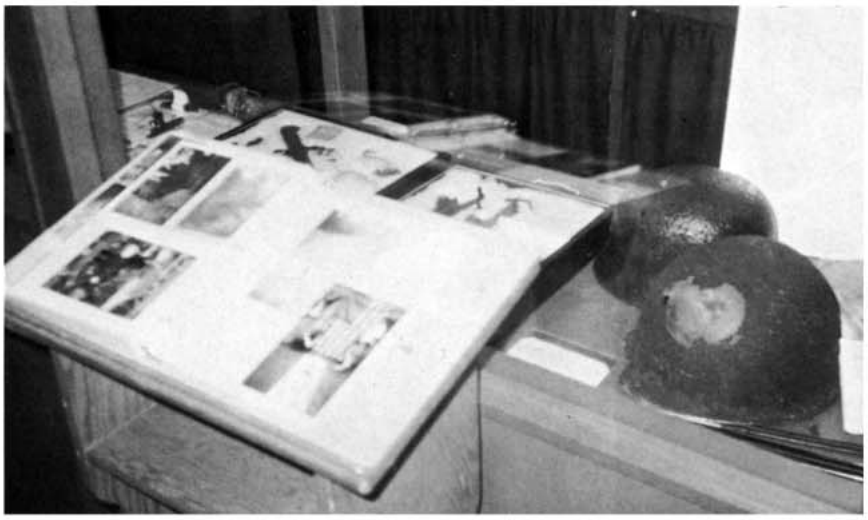
The following day, December 18, Robert Muyres and the wounded German were still in the hole at the Company B position and could hear the distant sounds of small-arms fire. Four Germans eventually found them and took the wounded German away saying that they would return for Muyres: 'I think the German died, because after a few minutes (no more than 20) they came back to get me. They carried me a long way through the woods which were destroyed. The snow was very deep and the "ride" was painful, I fell off the litter several times. I still feel today what those four Germans did was outstanding.'

**Sito's metal 'dogtags' stamped with his serial number (33728517), the dates of his tetanus jabs 1943/44 and his blood group 'B'. Normally, one tag would be left on the body while the other was sent to the Graves Registration Unit. Sito's buddies asked their captors if they could lift his body out of the hole in which he died. The Germans said that they would take care of it but evidently did not do so, hence the discovery of his remains 44 years later.**

**Pilgrimage to Europe. Richard Sito, accompanied by his wife, follows in his brother's footsteps to the long-lost grave.**

Alphonse Sito's body lay exactly where he had been killed and in early January, 1945, his parents received the dreaded telegram: 'The Secretary of War desires me to express his deep regret that your son, Private First Class Alphonse M. Sito has been reported missing in action since eighteen December in Belgium [actually Germany]. If further details or other information are received you will be promptly notified. Signed Dunlop, Acting The Adjutant General Battle.'

A few days later, they received the standard letter stating that 'the term "Missing In Action" is used only to indicate that the whereabouts or status of an individual is not immediately known. It is not intended to convey the impression that the case is closed. I wish to emphasise that every effort is exerted continuously to clear up the status of our personnel. Under war conditions this is a difficult task as you must readily realise. Experience has shown that many persons reported missing in action are subsequently reported as prisoners-of-war, but as this information is furnished by countries with which we are at war, the War Department is helpless to expedite such reports.'



**Sito's helmet is now displayed in the 99th Division section of the Soldiers' and Sailors' Memorial Hall in Pittsburg, Pennsylvania, the original home base of the division.**

**Ceremonial burial for 2nd Lieutenant Holloway at Fort Sam Houston in San Antonio, Texas, on September 7, 1991. He was commanding a mortar section in Company K of the 393rd Infantry and was listed as 'missing in action' on December 17, 1944. Today, thanks to the efforts of the 99th MIA Search Team, that designation has been changed to 'killed in action'.**

On Thursday, September 29, 1988, Jean-Phillipe Speder and Jean-Louis Seel of the 99th MIA Search Team discovered human remains at the former Company B position east of Losheimergraben. Via the then-superintendent of the US Military Cemetery at Neuville-en-Condroz, they informed the Supervisor of US Memorial Affairs Activity Europe of their findings and arranged a preliminary meeting at the site.

Satisfied that this find constituted the remains of a Second World War US serviceman, the supervisor, Mr. Michael C. Tocchetti, labelled the case: 'Search and Recovery 5161 (X-9463)'. In a statement he declared: 'On 20 October 1988, a team of four (4) Military members and I went to the area, Search and Recovery #5161 (S&R 5161) (X-9463). The remains were recovered from a foxhole in a wood area of pines on a side hill overlooking a valley in what is now the town of Losheimergraben, Germany. The dog-tag marked with name "Alphonse M. Sito 33728517 T 43 44 B and C" was found around vertebrae; also a small St Christopher medal was on the chain. In the wallet, the other dog-tag with his information and the information of "Anna Sito, 2324 Fleet Street, Baltimore, MD" was found.'

Tocchetti's team then took the remains and artefacts to their laboratory in Frankfurt, Germany, from where they were then sent to the US Army Central Identification Laboratory at Fort Shafter, Hawaii (see *After the Battle* No. 66, page 47).

The list of items found with the remains included combat boots, rubber stamps, a toothbrush, penknife, rosary beads, wallet, St Christopher medal, plastic crucifix, comb and a piece of cloth marked 'S 8517'. (It was common practice for GIs to mark equipment with the first letter of their name and the last four digits of their serial number.)

On March 10, 1989, a board of officers appointed by the commander of the US Army Personnel Command, after considering all data presented, and the absence of any contradictory evidence, duly approved the identification of the remains as those of Private First Class Alphonse M. Sito. Forty-five years and one day after being killed in action at Losheimergraben, Sito was given a family burial in Saint Stanislaus cemetery in Baltimore, Maryland. On October 13, 1991, his brother Richard, accompanied by his wife, their son and his wife and child, visited Losheimergraben to see where Alphonse had been found.